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A HANDBOOK OF ASIA MINOR

VOLUME I

GENERAL

JULY, 1919

NAVAL STAFF
INTELLIGENCE DEPARTMENT

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NOTE

Asia Minor is treated in four volumes, two of which are issued in separate parts. The first volume contains information of a general nature. The other volumes are devoted to the detailed description of topographical features, railways, roads, and cities. The second volume deals with the western part of the peninsula up to the Dalaman Chai, the rim of the plateau, and the route of the Anatolian Railway from Afium Kara Hissar to Izmid. To the third volume (divided into three parts) are assigned the mountains of the north from the Bosporus to the Halys, the central plains from Eski Shehir to Kaisari, and the mountains of the south from the Dalaman Chai to the Lamas Su. The fourth volume contains a description of the eastern part of the peninsula, and is divided into two parts, devoted respectively to the region between the Black Sea and Kaisari and to the country round the Gulf of Alexandretta—Cilicia, Antitaurus, and North Syria.

It is necessary to emphasize the fact that in the circumstances the information given cannot be complete or up-to-date, and may occasionally be inaccurate. The Admiralty will be glad to receive corrections and additions.

LIST OF MAPS FOR USE WITH THIS VOLUME

KIEPERT. *Karte von Kleinasien.* 1/400,000.

PHILIPPSON. *Topographische Karte des westlichen Kleinasien.* 1/300,000.

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CHAPTER I

PHYSICAL GEOGRAPHY

Situation—Meaning of 'Asia Minor' and 'Anatolia'—Boundaries of Asia Minor—Surface and coasts—The Karamanian zone—The Aegean zone—The Black Sea zone—The Central plateau.

Situation

The mountain system of southern Asia is, in its broad outline, a series of great arcs, in general convex to the south. That portion of the system which concerns us here, in describing the position and structure of Anatolia, breaks off from the Hindu Kush mountains to the north of India, and sweeps westwards in two roughly parallel series of arcs, bulging towards the south. Of the two series, the northern arcs have less curvature than the southern. Between the ranges lies a practically continuous system of tablelands, whose height, shape, and extent are determined by the curvature of the mountain-rims. The two series of arcs meet, or almost meet, at three distinctly traceable and widely separated points—the Hindu Kush, the Dersim in western Armenia, and the mountains which border the Ionian seaboard. Between the first and second meetings lie the elevated tablelands of Afghanistan, Persia or Iran, and Armenia. Between the second and third lies the tableland of Anatolia. Over the Marmara and Aegean Seas the double mountain-rim turns northward, and runs, gradually breaking down in its course, towards the heart of Europe. The high tablelands lying between these mountain ranges in western Asia present throughout a complete homogeneity of structure and climatic conditions, and a great similarity in type of population and conditions of life.

At one end of this lofty corridor lie Constantinople and the

Aegean Sea. Below the other end lie India and China. The northern mountain-rim faces in succession the Black Sea, the Caucasus, the Caspian Sea, and the plains of central Asia. The southern rim looks down on the eastern Mediterranean, Syria and Mesopotamia, the Persian Gulf, and India. The corridor, and especially its western part, has been throughout history the main channel of intercourse between Asia and Europe.

Asia Minor or Anatolia is the extreme western portion of this corridor, with the fringe of coastlands lying below it on the north, west, and south.

Meaning of 'Asia Minor' and 'Anatolia'

The name 'Asia Minor' was not used by classical geographers (it is first found in Orosius, fifth century A. D.) and is not used at the present day in the country itself, either popularly or officially. The name no doubt arose in the first instance through a vague popular distinction between the Asiatic peninsula lying east of the Aegean and the continent of Asia behind it. In Europe the term is used as interchangeable with 'Anatolia'.

The name 'Anatolia' (Turkish Anadolu) is derived from the Greek Ἀνατολή ('sunrise', 'east') which was used in the later Byzantine period to describe the Greek territories lying east (and south) of the Bosporus. In this ancient sense the southern boundary of Anatolia was the Taurus range, whose eastern portion was for long the frontier between the Byzantine and the Arab territories. This restriction of the name Anatolia to the territories north of the Taurus range was confirmed in the later history of the peninsula, when the independent kingdom of Karamania comprised the southern mountains and the south coast, and the Turkish 'Anadolu' was long confined to the lands north of Taurus. It was only in A.D. 1515 that the Turks completed the conquest of the south coast of the peninsula. Before the reconstitution of the Turkish provinces as *vilayets*, 'Anadolu' was the official title of the principal *eyalet* of Asia Minor, and the name was also

used more generally to include all the peninsular provinces over which the Beylerbey of Anadolu had paramount military jurisdiction. By the Turks of to-day, Anadolu is used in two different senses. Rarely it means the whole of the Ottoman provinces in Asia, or is even used to include the Moslem East. Commonly it means the peninsula of Asia Minor, up to an indeterminate line between the Gulf of Alexandretta and the Black Sea, and excluding or including the south coast. By Europeans 'Anatolia' is generally understood to mean the peninsula of Asia Minor, eastwards to a line from Alexandretta to the neighbourhood of Trebizond. In this sense it includes the pre-war *sanjaks* of Izmid and Bigha, and the *vilayets* of Brussa, Aïdin, Konia, Angora, Kastamuni, Adana, Sivas, and Trebizond. Such a delimitation is fairly satisfactory to the ethnologist, as comprising all the country mainly inhabited by Turks. The geographer would be inclined to omit the eastern part of Trebizond, which, structurally and economically, belongs to Armenia rather than to Anatolia. (See next section.)

The names Asia Minor and Anatolia are purely geographical terms, and have no racial or political significance.

Boundaries of Asia Minor

On the north and south the geographical boundaries of Asia Minor are clearly marked by the Black Sea and the Levant, and by the high ranges which run parallel to the coasts. On these coasts, except in Cilicia, the ethnical dividing line is equally distinct, for there is no room for masses of strangers from oversea to obtain a foothold, and the non-Turkish element is represented by a sprinkling of Greeks, mainly of Anatolian descent. In the west, while the sea at first sight supplies an equally definite geographical boundary, yet the sea is too narrow, and the waterways too easy, to establish a real dividing line between Turks and Greeks. Further, there exists in the west a considerable area which belongs by geography rather to the Aegean zone than to the Asiatic plateau. This area has always had a numerous

Greek population, largely derived from Greece and the Islands.

On the south-east and east, the boundary of Asia Minor is difficult to trace, but certain large facts of geography and history stand out clearly. The eastern part of the Taurus range is the true geographical boundary of Asia Minor in the south-east, and this range has imposed itself in various periods of history as a political and linguistic boundary. But this boundary excludes Cilicia, which, economically, is an essential adjunct of the eastern part of the plateau, and in population belongs to Asia Minor rather than to Syria. The most satisfactory boundary, for practical purposes, is the Amanus range, which separates Cilicia from northern Syria—with the qualification that Alexandretta, a Cilician port, is the natural outlet for the trade of northern Syria. From the Amanus range, the geographical boundary runs north of Marash and along the Taurus range to the Euphrates near Malatia. It then follows the Euphrates to the plain of Erzinjan, whence it runs over the northern mountains to Trebizond, or, alternatively turns east and follows the Chorukh valley to Batum (see p. 68).

In tracing an ethnical boundary on the east of Asia Minor, four main racial or linguistic groups have to be taken into account—Turks, Arabs, Kurds, and Armenians. For this purpose the Turks must be understood as including various Moslem groups of Turkish speech, such as Turkmens, Avshars, Circassians, and Lazis, and the Arabs include the 'Town Arabs' as well as the Bedawin.

In the south-east, the boundary dividing Turkish-speakers from Arabic-speakers is fairly definite. It lies some distance south and east of the geographical boundary between Asia Minor and Syria, so that, in respect of language and ethnical affinity, part of northern Syria has to be assigned to Asia Minor. The actual boundary line runs from Latakie on the Syrian coast, passes between Aleppo and Killis, then turns north-east to strike the Euphrates south of Nizib. Further eastwards, the line dividing Arabs from Kurds and Armenians

runs roughly along the line of the Baghdad Railway as far as the Tigris.

Along the line of the geographical frontier from Marash to the Black Sea and over a considerable area east and west of this line, the different racial groups, chiefly Turks, Circassians, Kurds, and Armenians, are sandwiched in inextricable confusion. The racial distribution is indicated on Map 4.

Surface and Coasts

General.—Asia Minor consists of a lofty oblong central plateau, with a rim of mountains and a fringe of coastland. The plateau lies about 3,000 to 4,000 ft. above sea-level: its surface is folded into ridges or penetrated by volcanic cones. It is bordered on the north, west, and south by a rim of mountains which divide it from the coastlands and make it appear as a huge interior depression. The mountain-rim is mostly of considerable breadth, formed of parallel chains, and generally much broken and cut up by water-courses.

The mountains on the south and east are higher than those on the north and west, and the plateau is tilted down towards the north and west. On the west, again, the mountain-rim is not so distinctly marked as on the north and south. It is, however, always present, and roads and railways have always to ascend to the top of a ridge and descend again some way towards the general level of the main central plateau. But on the whole a great part of the rough mountain region on this side really represents the breaking down of the central plateau towards the coast.

The mountains which edge the plateau on the north lie in a well-marked double—sometimes a triple—ridge, with important river valleys and lines of communication, aligned east and west, between them.

The most important edge of the plateau is that on the south, formed by the great range of Taurus. Taurus has always been a boundary of peoples, and types of population and conditions of life north and south of Taurus have always presented a sharp contrast.

The western edge of the plateau differs essentially from the northern and southern edges. On this side the mountain ridges, instead of falling steeply to the sea, as on the north and south, slope gradually down to the coast for a hundred miles, and are separated from each other by river valleys, which provide avenues of communication between the coast and the interior. The chief of these valleys are those of the Hermus and Maeander.

The eastern edge of the plateau of Asia Minor is formed by the pinching together of the northern and southern mountain ranges, which narrows the plateau to a broad pass between the Dersim and the range north of Erzinjan.

All the territories which lie outside the mountain-rim on the north, west, and south belong to the coast region, which is divided by situation and character into three zones, (I) the zone of Karamania, or the South Coast, (II) the Aegean zone, and (III) the Black Sea zone. Of these three zones the first and third are narrow and steep, the second broad and gently sloping.

Although they form parts of a single whole, the coast region and the region of the interior are in sharp contrast to each other. The first, in scenery, vegetation, fauna, and conditions of life has more in common with southern Europe than with continental Asia. The second, in its shape, vegetation, climate—contrasts of temperature and dryness of soil and air—betrays the fact that it is a westward continuation of the mountains and steppes of central Asia. Between the high lands of Asia Minor and those of central Asia, there is practical identity of physiognomy ; they consist of the same arid plains interspersed with oases into which sluggish rivers flow, or studded with salt lakes, the same mountain fringes, with parallel folds. The Anatolian peninsula has been aptly described as a bit of Asia set in a European littoral.

The Three Coastal Zones.

The three coastal zones, while all in sharp contrast to the tableland, exhibit divergences of character among themselves.

Asia Minor is destined by nature to serve as a bridge between the Balkan peninsula and the interior of Asia : the mountain rims on the north and south are to the peninsula what its parapets are to a bridge, confining roads and traffic to an easterly and westerly direction. Along the western valleys, and across the plateau from west to east stretch the corridors which peaceful and warlike intercourse between the Balkans and the Aegean on the one hand, and Syria, Mesopotamia and Persia on the other hand, has followed throughout history. The west coast and the western valleys are thus necessarily more accessible to western, and especially Greek influence than the coastal regions of the north and south, which lie below the parapets of the bridge and have always lain outside the currents of commerce and war which moved over the central plateau.

For convenience of description, we shall include in each coastal zone the mountains which divide it from the interior.

1. *The Karamanian Zone.*—The Karamanian zone consists of the western portion of the Taurus range, which generally falls sheer down to the water's edge, and of two coastal plains and some alluvial deltas.

Take a map of the south coast of Asia Minor and glance at its main outline, passing from west to east. First there is the island of Rhodes which stands as the eastern barrier, just as Crete stands as the southern barrier, of the Greek Aegean area. Not far to the east of Rhodes, a blunt rugged peninsula runs out into the sea : then the coast-line turns sharply to the north, to turn south again and form a second blunt peninsula, which in its turn is succeeded by a second great indentation before the coast runs southward to Syria and Egypt. The two great projections are the ancient Lycia and Rough Cilicia, which are formed by ramifications of Taurus reaching down to the sea. In the intervening indentations where the sea penetrates to the north, the mountains recede still further to the north, leaving room for two small but very fertile plains. These plains are Pamphylia and the low-lying part of Cilicia.

Speaking generally, the Taurus range appears sometimes as a lofty ridge, with gentle lower slopes, sometimes as a broad plateau supporting one or more ridges. In breadth it varies greatly, being generally not less than 50 miles across, but in some cases much more, according as the mass of the elevated plateau extends outwards towards the north or approaches close to the sea on the south. On the north it is bordered in succession by the Cappadocian and Lycaonian plains, by the Isaurian foothills south of Konia, by the valley passing north of the great lakes between Konia and Dineir, and by the Maeander valley. Except in the Maeander valley and on the level plains of the eastern plateau, out of which Taurus rises as sharply as it does from the sea on the south coast, the foothills of Taurus merge into the mountain system of the plateau, and at some points a definite dividing line is difficult to draw.

The description of the Taurus range where it runs along the south coast of Asia Minor falls naturally into four sections: (1) The mountains around the Cilician plain—Amanus, Antitaurus and Cilician Taurus. (2) The region of Low Taurus. (3) The Geyik Dagh, Dipoiras, and Davras. (4) Lycia, and the plateau to the north of it.

(1) The eastern Mediterranean drives a broad blunt wedge between Asia Minor and Egypt. The north-eastern corner of this wedge is the Gulf of Alexandretta, which marks a sharp division between Asia Minor on the north and Syria, with Mesopotamia, Arabia, and Egypt on the east and south. The sharpness of this geographical division is still further accentuated by the shape of the terrain. The Taurus range links up on the east with the mountains of Kurdistan, and runs generally westward to Budrum in the south-west of Asia Minor. Adjoining the angle formed by the south coast of Asia Minor and the Syrian coast two subsidiary ranges, Antitaurus and Amanus, interrupt to a greater or less degree the general westerly trend of the Taurus chain. The range of Amanus breaks off from the Taurus range near the town of Marash, and runs south-west to the mouth of the Orontes.

The double range of Antitaurus runs from south to north, making a break in the chain of Taurus to the west of its junction with Amanus. It thus forms a corridor giving access from Cilicia to the eastern portion of the plateau, while at the same time forming a considerable obstacle to traffic from east to west.

The Amanus range is separated from the Taurus range by the Ak Su valley, south of Marash. It runs south-westwards in a series of parallel ridges separating the Gulf of Alexandretta from the long valley of the Kara Su. Its average height is some 3,000 ft., with peaks rising to close on 6,000 ft. The Baghche Pass, the Hassan Beyli Pass and the Beilan Pass are the most important avenues of traffic across this great mountain chain. South of the Beilan Pass the chain becomes remarkable for its indented sides and numerous summits. It terminates in the peaks of Ras el-Khanzyr (5,550 ft.) which separates the Gulf of Alexandretta from the Bay of Antioch. The Amanus forms a formidable barrier between Cilicia and northern Syria.

Antitaurus begins at the meeting-point of western and eastern Taurus. The name Antitaurus is ancient, and is justified by the fact that the ranges which it designates run in a sense counter to the main trend of Taurus, that is to say roughly north and south instead of east and west. Although the structural independence of Antitaurus is thus sharply marked in name and in fact, this independence is much greater with respect to eastern than to western Taurus, for between the highlands of Cilicia and Antitaurus, or, more precisely, between the Ala Dagh on the west of the Zamanty River and the Kozan Dagh and Bakyr Dagh on the east, the difference in direction is very slight, while in geological formation the ranges are exactly alike.

Antitaurus falls naturally into three main divisions, southern, central, and northern, which vary considerably in structure and to some extent in direction.

The main direction of the many ranges of southern Antitaurus is from north to south. They lie south of a line

drawn from the Zamanty bend at Fraktin to the point where the Sarys begins to break through the Hancha Dere, and continued further eastwards by the course of the Göksün Su to the Jihan. Thus the Zamanty and the eastern Jihan watershed form respectively the western and the eastern boundary of this mountain region, which to south and south-west merges into the hills of northern Cilicia.

Central Antitaurus is characterized by two clearly distinct but converging ranges—a western range running SSW.–NNE., and an eastern range running north and south. This central region is contained between the Zamanty on the west and north-west and the Khurman Su on the east.

Northern Antitaurus comprises the ranges which form the watershed between the upper Kyzyl Irmak and the Euphrates. These ranges swerve north-eastwards, and are separated from central Antitaurus by the valley of the Ekrek Su on the west and the Tokhma Su on the east. The mountain system which forms this northern region continues as far as the plain of Erzinjan, which separates it from the southern buttress of the eastern Pontic range.

Geologists hold that the Antitaurus system extends southwards to the Jebel Missis and thence to the low rounded hills which protrude into the sea at Karatash.

Cilician Taurus forms the highest part of the great Taurus range. From the region south of Erjies Dagh (Mount Argaeus) in the north-east it extends in a convex arc some 150 miles in length, to the south-west, where it disappears in the limestone plateau of Cilicia Aspera, near Gödet. Lying between the plain of Lycaonia and the ledge of limestone to be described below, it forms the backbone of the whole south-east of Asia Minor, from the Antitaurus to the mountains of Isauria. Its breadth never exceeds 22 miles, and its continuity is very rarely interrupted. An unbroken range, the Ala Dagh, extends from the Cappadocian plain to the valley of the Korkun Su, which sinks to some 3,000 ft. and separates the Ala Dagh from the Kyzyl Dagh to the south-west. Another clear break is the narrow gorge of the Chakyt,

which separates the Hajin Dagh from the Kyzyl Dagh Between the Hajin and the Bulghar Dagh is the gap of the Cilician Gates, and from here to the Yedi Bel on the south-western spurs of the Dümbelek Dagh there is no depression lower than 7,500 ft.

Thus the whole range is practically one unbroken crest. On the upper Korkun Su its height reaches to about 8,000 ft., in the southern part of the Ala Dagh it rises to 10,000 ft., and several peaks reach 11,500 ft. In the Karanfyl Dagh its height is 10,000 ft., but in the outer zone of the Ala Dagh, at the Kyzyl and the Hajin Dagh, it sinks to about 6,500 ft. The heights of the inner zone of the Ala Dagh are loftier, and increase from north-east to south-west. The Bulghar Dagh has a general elevation of some 10,000 ft., with peaks some 800 ft. higher. It is in the Bulghar Dagh, at the peak of Aidost, that the chain reaches its highest point at an altitude of some 11,700 ft. The Bulghar Dagh is continued towards Karaman by the Karapunar Dagh, whose direction is practically east to west. The Dümbelek Dagh, which forms the south-eastern bastion of the range, has a height of some 10,000 ft. in its eastern part and sinks gradually towards the west.

The lie of the range is comparatively simple. It is a single chain in the north-east and bifurcates towards the south-west.

The mountain region of western Cilicia (called 'Rough Cilicia' by the ancients) rises in several easily distinguishable terraces. Bordering on the cultivated lowlands is a series of low chalky foothills nearly bare at first, but thickly covered with scrub as their height increases. Above these stands a dark line of heights pierced by red-walled ravines and clad with firs, pines, cedars, or junipers. Higher still stretches a broad emerald strip of mountain pasture leading lastly to the bare towering heights of the lofty mountain region, a grey land of rocks and crags covered in summer with a ragged mantle of snow.

The low foothills formed by erosion may be said to end as a feature at 1,000 ft., where pines and firs are first met

with. Below this the vegetation consists chiefly of scrubby oaks, thorn-bushes, and terebinth.

The wooded heights above the foothills form part of a geographical feature of more than local importance. Round the base of the Taurus peaks, like a glacis round a fortress wall, stretches a high limestone plateau in a huge convex curve facing south-east. It is some 200 miles in length, extending from the foot of the Ala Dagh in north-western Cilicia to the upper waters of the Calycadnus or Gök Su and the Isaurian mountains. This plateau forms a ledge sloping outwards with varying steepness. To the north of the Cilician plain it dips gently to the alluvial lowlands, while its slope is much steeper where it overhangs the sea farther to the west. The eastern part of this great plateau differs from the western part in that it is composed of two distinct layers or terraces which are clearly visible from the plain: viz. a higher terrace, from 6,000 to 8,000 ft., mainly above the tree-line, and a lower and outer one of some 4,000 ft. The approach from the foothills to the lower terrace, as has been said, is steep and at times precipitous; that from the lower to the upper is much more gradual. This duplicate construction ceases in the west, where the two terraces merge in a more even plateau averaging some 5,000 ft. in height. The level tops of the hills, the perpendicular walls which bound them on all sides, the yellow ferruginous colour of the stone, the perforation of the walls by innumerable caves, the typical dry valleys and depressions in the surface, the canyon-like river-valleys, the *düdens* into which the water-courses disappear to emerge again lower down, the tall cedars, firs, Scotch pines, and junipers, the broad levels covered with dried tree-trunks and thickets of holly, tamarisks, terebinths, and myrtles, are distinctive marks of the whole of this ledge from the foot of the Ala Dagh to the Isaurian mountains.

(2) Towards the west, the Dümbelek Dagh breaks up in a series of lower ridges, coming to an end at the Yedi Bel. West of this pass, as far as the Gök Su, it may almost be said that there is a break in the continuity of the mountain rim. When

sharply-defined ridges begin again west of the Chivi Su the general direction of the chains is from south-east to north-west, and the lie of the land is betrayed by the courses of the main streams, the Lamas Su and the Gök Su, which make their way to the south coast with a general south-easterly trend.

This intermediate region may not inappropriately be called Low Taurus to distinguish it from the tremendous walls of which the Bulghar Dagh is the first on the east, or the broken ridges which culminate in the Geyik Dagh on the west. The elevation which roads must attain to traverse it is not indeed much lower than that of the passes through the other parts of the range. On the other hand, few peaks rise above the general level, and the gradual slopes give so easy a character to the roads, that the evidence of the aneroid is needed to give the traveller any just idea of the height to which he has climbed.

(3) South of Karaman lies a stretch of broken hill-country, partly covered with forest. Farther south, and west of the Chivi Su, these outliers culminate in the most northerly of three parallel chains which follow the middle course of the Gök Su in a north-westerly direction. The summit of the first main chain, the Melis Dagh, is covered with a forest of cedar and pine. Its southern slope falls steeply to the Gök Su, here a very deep and swift stream flowing in an impassable ravine. The next range to the south rises steeply from the river and its northern slope is also covered with forest. It has a broad undulating back, and on the south side falls abruptly to a narrow valley, from which rises the most southerly of the three ridges, the Top Gedik Dagh. These three ridges appear to merge in the outliers of the Geyik Dagh, which is the name given to the great massif north of Alaya, and Taurus continues north-westwards as a single ridge towards the Lake of Beyshehir. This part of the range, and indeed the whole stretch from Low Taurus, forms an insuperable barrier to traffic of any weight, but round its north-western end passes a road which links the Konia region with Pamphylia.

The next great ridge, as we move westwards, runs due

north and south. Starting from the huge mass of Dipoiras, in the space between Egerdir and Beyshehir Lakes, it runs south to the Ovajyk Dagh, which overlooks the plain of Pamphylia. Dipoiras, and the twin mass of Davras, south of Egerdir, carry the watershed far to the north in this area. Between Dipoiras and Davras, and again west of Davras lie valleys which carry the roads from Adalia to the central plateau via Egerdir and Isbarta.

The trend from north to south is maintained by the next ridge, or rather series of ridges, whose southern portion forms the eastern rampart of the Lycian projection. Beginning south of Buldur, this ridge runs almost continuously down to the sea at Cape Khelidonia.

(4) In its main outline, Lycia forms an arc-shaped peninsula, a broad bastion of mountain land jutting out into the sea between Adalia and the mouth of the Dalaman Chai. Lycia consists of the broad plateau of Elmaly, 4,000 ft. above sea-level, which projects in a mighty ledge from the main mass of Taurus on the north, and of a series of ridges which run parallel to the coast on the three remaining sides, and in some of their peaks attain a height of over 10,000 ft. Gurdef Dagh and Ak Dagh on the west, Susuz Dagh and Ak Dagh on the south, Kyrk Punar Dagh and Bey Dagh on the east form an almost continuous rampart around the plateau. On the north, the eastern and western mountain walls join up with the Taurus range, here a broad tableland. Corresponding to the three main points of direction in which they extend, these ridges fall down to three great valleys, which drain their outward slopes. These valleys form, as it were, a fosse around the mountain rampart. They are the Xanthus valley in the west, the Dembre valley in the south, and the Alaghyr valley in the east. The mountains which lie outside the main rampart enclosing the Elmaly plateau are either outliers of the main ridges, separating the above-mentioned valleys from each other, or independent masses separating the valleys from the sea. They have been described as lower outworks of the great rampart.

The extraordinarily broken character of the Lycian country opposes the greatest difficulty to traffic between depression and depression; often a day's journey is necessary to get from one side of a river valley to the other. Lycia has always been a land of small independent communities, holding little intercourse with each other. From the rich life which has always been characteristic of the lands of the west coast, Lycia is cut off by the wild Dalaman Chai region.

The Taurus tableland north of Lycia proper consists for the most part of broad ridges enclosing high plateaus. Many of these plateaus have no outlet for the drainage of the adjacent slopes, and part of their surface is often filled by marshes or lakes. The Göben Dagh and the Rahat Dagh appear to form the main watershed, and their general direction is from north-east to south-west. The main streams north of the watershed make their way either northwards towards the Buldur Göl or north-westwards to the upper Macander valley, where the general east to west trend of Taurus is resumed by the Baba Dagh. The remainder of the range belongs to the west coast lands (see p. 37 ff.).

Rivers

The great majority of the rivers shown on the map of the Karamanian coast are small streams or flood torrents, which carry water only during the melting of the snow, or after heavy rain. There are, however, a few perennial rivers of some importance, which will be described in succession. The Jihan, Sihan, Menavgat Chai, and Köprü Sü are navigable for small craft in their lower reaches; most of the others are used for floating timber.

Jihan (anc. *Pyramus*)

The Jihan rises near Albistan to the east of central Antitaurus (see p. 18), and after passing through a defile between southern Antitaurus and Amanus enters the Cilician plain at Araply north of Osmanie. The defile, which runs through wild country, is passable only on foot. From Araply the

Jihan pursues a winding course to Missis, where it bends southwards, and finally enters the sea south of Ayas Bay, which it is gradually closing. In ancient times it reached the sea much farther to the south-west, some distance west of Karatash Point. Its former bed is still marshy and liable to inundations. In the marshy area which accompanies its course through the eastern Cilician plain (see p. 33) the Jihan is joined by several tributaries.

Sihan (anc. *Sarus*)

The Sihan is formed by the junction of the Zamanty and Sarys (or Gök Su) rivers, both of which rise in northern Antitaurus, and break through the mountains in deep gorges. The former flows between the plateau of Kaisari and the western chain of central Antitaurus continued south-south-westwards by the Kozan Dagh, the latter between the western chain and the eastern, which is continued to the south-west by the Yuwaja Dagh.

The united river, after leaving the southern fringe of Antitaurus, flows leisurely through the lower Cilician hills, among which it is joined by two large streams, the Korkun Su and the Chakyt Su, and enters the lower Cilician plain, about 2 miles north of Adana. The upper valley of the Korkun Su is followed by the direct road from Tarsus and Adana to Kaisari which leaves the Cilician Gates route near Bozanty. The river passes through deep inaccessible gorges in its lower course, and before its junction with the Sihan is joined by the Chakyt Su. This last river, whose cleft through the Taurus is followed by the Baghdad railway, is formed by the junction of two streams, followed by the roads from Eregli and from Nigde, which unite at Takhta Köprü, north of Bozanty. From this point the river passes through the Taurus to Bozanty amid wild scenery, and then enters a series of inaccessible defiles, to emerge finally from a cleft with perpendicular walls of rock. At one point the sides of the chasm have fallen in ; and form a wooded valley—a gigantic natural bridge beneath which the river flows unseen.

Below Adana the Sihan bends from due south to south-west, and then, after a tortuous course, enters the sea about 3 miles from the mouth of the Tersus Chai. Formerly the Sihan entered the sea considerably to the east of its present mouth.

Tersus Chai (anc. *Cydnus*)

The Tersus Chai is formed by the junction of three streams which rise in deep gorges on the slopes of Taurus (the most easterly flowing through the Cilician Gates defile) and unite before they enter the plain to the north of Tarsus. The courses of all these streams converge towards the south-east. They pass in places through narrow clefts with lofty inaccessible sides, which look when seen from a distance as if they had been cut into the rock by some gigantic sword.

About a mile north of Tarsus the united river, which here runs south, falls over a ridge of rock about 15 feet high, and thence pursues a sluggish course to the sea. At its mouth it has a width of 150 yards. A bar prevents access from the sea, and its lower course is through marshlands ending in a delta. On the right bank, below Tarsus, it is bordered by luxuriant gardens. The water is of indifferent quality at and below Tarsus.

Lamas Su

The Lamas Su is said to be the only perennial stream in eastern Cilicia Aspera, the rivers which enter the sea between it and Mersina all drying up in summer. Its source is unknown, but it is said to be near the Yedi Bel on a track leading from Selefke to Karaman. Its general direction is south-east. Throughout its short course, not exceeding 50 miles with all its sinuosities, the river makes its way through the rocky mountains by a gorge which is never more than half a mile across and the walls of which are sheer precipices, often 200 ft. high for miles on either side, and occasionally rising to 500 ft. It is impossible to go up the river by its banks. Though small and rapid, the stream is useful, turning 40 mills in its course, irrigating tiny fields, and carrying down

timber. The Lamas abounds in fish. The water is good, but carries much calcareous matter in suspension. Near the coast, the canyon opens out suddenly to a narrow coastal plain, which is the extreme western limit of the Cilician plain.

Gök Su (anc. *Calycadnus*)

In the region of Dedem Köi Yaila, south-east of Siristat, the mountains rise to a watershed on the northern and southern slopes of which rise the streams which feed the northern and southern arms of the Gök Su.

The main upper waters of the northern branch are said to rise about six miles south of Dedem Köi, and soon form a copious stream. The river bends to the south-east running for a long distance in a canyon, as far as Köprü Bashy, where it is already a large stream. At Takhta Köprü it receives a tributary as large as itself, the Alata Su, coming from the mountains on the south-east.

Some distance below its junction with the Alata Su, the Gök Su disappears for rather more than half a mile underground, forming a natural bridge known as the Yer Köprü ('Earth Bridge'). On either side of the gorge rise two tributaries, which flow their whole length above the course of the main river, and fall into it in a cascade.

The river is joined below a deep gorge called Cholla Kapusu by two large tributaries, the Chivi Su and Pirinj Su, and farther down-stream, south of Mut, it is joined by the southern arm referred to above. The course of this arm is little known: it flows through the valley of Ermenek.

The volume of the river after the union of the two branches is such as to make it unfordable except at a few points. Below Mut it is from 50 to 80 yards wide, with a rapid current. It enters the sea in the plain of Selefke, east of the town.

Menargat Chai

The head-waters of this stream rise in the Pisidian mountains, at a height of about 3,000 ft. above the sea. It receives

several tributaries in its upper course, and soon attains a considerable size, with a breadth of nearly 40 ft.

Below Ilarma, the river flows in a south-south-westerly direction, deep and still in places, in others shallow and rapid. Its bed here is deeply cut in the steep mountains, and it receives no important surface tributary, but, like the Köprü Su, is swelled by a number of underground streams, especially on its left bank.

Only at a few points do the mountains retire from the river, and afford room for settlements. The region in which lay the ancient cities of Erymna and Katenna, the one on the right and the other on the left bank of the river, 7 or 8 miles distant from each other, is apparently the most important of these.

The banks lose their ruggedness 12–15 miles from the sea, where the river issues from its last gorge. It now enters a valley which gradually opens out, and runs rapidly through wooded hill country. A short distance above Bazarjyk, where it leaves the foothills and enters the Pamphylian plain, the river receives its first important open tributary, the Ak Su, formed by two streams from the foothills.

The river is navigable as far as Bazarjyk. There the breadth is 30 yds., the depth 6–8 ft. It is 40 yds. wide, and 13 ft. deep, opposite Menavgat Kale, 3 miles from its mouth. Lower the depth increases to 21 ft., and then decreases to 18 ft. Just within the bar, the breadth is 180 yds., and the depth 12 ft. There is 3 ft. of water on the bar.

Köprü Su (anc. *Eurymedon*)

The main upper streams of the Köprü Su unite in the Syndan Ova, a plain lying at the western foot of Dipoiras. Thence the river runs south-east through narrow wooded ravines past the village of Aivaly. At Chöpelde Belenje the valley broadens, and a little further down the river bends westwards and breaks through a ridge, the Tota Beli, before it reaches Kasymlar.

The river now for some distance flows between walls often

nearly perpendicular, and fills the whole of the ravine bed. Side valleys are almost entirely absent. Farther downstream, above the village of Kesme, it is 8–10 yds. broad, and the bed is filled with boulders. Still lower, a strong tributary, the Deirmen Chai, comes in on the left bank. In spring this feeder is nearly as large as the main river, the ravine of which here opens out and admits of a track down the stream. A few miles down, other tributaries come in, the most important of which are the Kurtly Chai and Boghaly Chai. The valley here is broader, and the bed more sandy, the stream being 2 ft. deep and 16–17 yds. wide.

A little lower the river passes Bulasan, at a point where a short tributary enters the river. This is one of the wildest parts of the whole valley, though the presence of cotton fields marks the approach to the climatic conditions of Pamphylia.

Till it emerges on the Pamphylian plain, the river now seems to flow in deep gorges, and its bed cannot be seen from the tracks which traverse the high ground above. In this stage, the tributaries on the west side, which appears to be the higher and steeper, are small, and those on the east, though more numerous, are not important.

A little above the village of Balkyz the mountain country, with its pine forests, is left behind, and the river pursues the rest of its course, a distance of 12–15 miles, through the plain. At the bridge by which the chaussée from Adalia crosses, it is about 90 yds. wide and unfordable, with a swift current, and it is said that boats can ascend to this point. There is no recent information about the breadth or depth between this and the sea. In the earlier half of last century the breadth above the bar was about 140 yds., and the depth about 15 ft. The bar itself at that time had only 1 ft. of water on it.

Ak Su (anc. *Cestrus*)

The main upper stream of this river is the Isbarta Chai, which, rising on the northern slope of Aghlasun Dagh, flows at first north and rounds the northern end of the mountains

at Isbarta. It then curves to the south-east and passes through the valley between the Aghlasun Dagh and Davras Dagh. Some miles lower down it receives a fairly important tributary, the Aghlasun Chai, and here leaving the region of the upper plateau the stream enters on its middle course.

The valley walls in this area are at first less definitely marked, but lower down they gradually become higher and more rugged, forming narrow gorges dominated by rocky wooded mountains. There are practically no side valleys, and no tributaries of any importance, on this stretch.

Some miles downstream from its junction with the Aghlasun Chai the valley opens out into a small plain, where the river receives a tributary on the left bank probably fed by underground waters from Koghade Göl, and thus derived ultimately from the basin of Egerdir Göl (see p. 118). Still farther down, it enters a large plain, the Pambuk Ova, where several tributaries come in from the east. South of the Pambuk Ova rises the mountain mass of Boz Burun, whose slopes send several feeders to the stream.

Emerging through the foothills, the river turns east for some distance, and then southwards through the Pamphylian plain to the sea. At the point where it is crossed by the chaussée from Adalia, it is about 50 yds. wide and unfordable. It is said that in ancient times the river was navigable for some distance from the sea, but this appears to be no longer practicable. In the earlier part of last century the breadth inside the bar was about 100 yds., and the depth about 15 ft. The water on the bar was not more than 1 ft. deep.

Koja Chai (anc. *Xanthus*)

The upper reaches of this river are fed by the streams which drain the high-lying hill country to the north-west of the Elmaly plateau. The course of the main stream is determined by the lie of the mountains which form the north-western rim of the plateau, and it is known here as the Seyidler Chai. A strong feeder, the Ak Chai, comes in from the Kartal Dagh below Ören. The river by this time has bent

round to a southerly direction, following the line of the western rampart of the Elmaly plateau. At Ören it emerges from a steep ravine, and enters the Xanthus valley proper (see p. 35). In this lower part of its course it receives several tributaries, some of considerable size. The yellowish colour of the alluvium which it carries with it through the plain gave the river its ancient Greek name of 'Xanthos'.

Not far below Düver, the breadth of the river is 35 yds. and its depth about $2\frac{1}{2}$ ft. A little above Günük the banks are steep and rocky, and apparently fordable in summer. Lower down the stream enters a marsh, through which it winds to the sea.

The Rivers of the Taurus Depressions North of Lycia

Similar in character to the great central inland drainage area described on p. 115 ff., but of much smaller dimensions, are a number of depressions without surface outlet on the Taurus plateau between Lycia, the Egerdir Göl, and the upper Maeander basin. The chief of these are the depressions occupied by the Ajy Tuz Göl, Buldur Göl (see also p. 62), the Kestel Göl and the Sögüt Göl. The great majority of the streams flowing into these depressions are mere brooks or winter torrents, but two larger streams deserve notice here as belonging to the Taurus system, although they do not flow to the south coast.

Gebren Chai (anc. *Lysis*)

In the hills that bound on the east the valley of the Khorzum Chai (see p. 53) there rise several streams which unite to form the Gebren Chai. One main stream comes from Gebren village, and flows into the upper part of a long valley running north-east. Here it joins another main stream from the south-east which drains the northern slopes of the watershed between it and the Kestel Göl depression.

The upper part of the valley forms a district by itself. It is broad, open, and fertile, with many villages, of which

the largest are Tefeni, Karamanly and Hassan Pasha. Below this the valley contracts and passes through broken ground on either side. Farther down there is a wider stretch of level ground on either side of the river, after which the hills close in on both sides and form a narrow gorge through which the river passes to the Buldur Göl.

Istanoz Chai (anc. *Taurus*)

This stream rises not far from the south-eastern source of the Gebren Chai, on the south side of the watershed, and flows east-south-eastwards, followed by the Denizli–Adalia road. In the upper part of its course, the river flows through a series of small plains and then enters a narrow wooded valley. The river is here about 13 yds. broad and 2 ft. deep, and falls in a series of cascades. At Dere Köi, farther down, it has a winding course, and lower still again falls in cascades, which are used for driving mills. Below this the valley opens out.

The river continues past Istanoz and keeps a more southerly course for some distance, till suddenly it bends to the north-east. Here also there is an open valley, swampy in places. The river at a short distance below the bend is about 4 yds. wide and 2 ft. deep.

Farther down, steep rocky hills approach the stream on the east, and the valley here is about $1\frac{1}{2}$ miles broad. A little lower, the hills on the west also draw nearer. About this point a tributary of considerable volume comes in on the left from the valley of Fughla. Still lower, the main stream is broken up into several channels, the valley alternately narrows and widens, till at length the stream passes between steep walls of rock, full of caves. The direction now is nearly east, till the stream enters the valley traversed by the road from Buldur or Isbarta to Adalia. The river now bends north, and continues so till it enters the Kestel Göl. In this part of its course it carries a considerable volume of water only in spring. In autumn there is little left of it except pools or marshes in the valley.

Dalaman Chai

This river flows into the sea on the south coast, but as the eastern boundary of the west coast lands it is described on p. 53.

Düdens

Underground rivers are characteristic of the Karamanian area. Large streams frequently disappear into *düdens*, as the Turks call the openings to the underground channels, the water having little difficulty in cutting a tunnel through the limestone rock where rising ground obstructs its course. Such rivers may run for miles beneath the surface before reappearing. Thus it happens that in many cases streams appear to rise full-grown, being fed by underground channels from valleys or basins from which they themselves are separated by mountain ridges.

The most important of the rivers which rise from or disappear into *düdens* are found above Adalia, in the valley of the Boghaz Su, which runs down from the Egerdir lake towards the Koghade Göl, and in the valleys of the Ak Su and Köprü Su. Even so large a river as the northern arm of the Gök Su makes its way for some distance beneath the surface, and on this stage of its course exhibits the remarkable phenomenon of flowing for about half a mile beneath two of its tributaries.

Valleys and Plains

The timber trade, and the high-lying pastures maintain a scanty population on the mountains of the south coast, but the most important areas from the economic point of view are the plains and some of the river valleys. The population is concentrated in the plains of Cilicia (with the plain of Issus) and Pamphylia, the valleys of the Gök Su and Koja Chai and the Elmaly plateau.

Cilician Plain

From the Lamas Su to Mersina there runs a narrow strip of coastal plain, which opens out east of Mersina into the great

Cilician plain, or Chukur Ova, which lies between the Gulf of Alexandretta and the foothills of the Taurus range. This plain is divided into two sections by a low ridge, stretching north and south above Missis. The plain has been formed by the soil brought down by its three great rivers, and consists of a rich stoneless loam, from 6 to 8 ft. thick, with a subsoil of shingle. The contrast between the western or lower and the eastern or upper section is strongly marked. The western does not exceed 80 ft. in height above the sea ; the eastern rises to 250 ft. In the western, which is for the most part cultivated, are numerous farms and villages, and the three large towns of Adana, Tarsus, and Mersina. In the eastern, cultivation is scarce, although in spring the plain is covered for thousands of acres with a fine natural clover ; its population is scanty, and extensive marshes lie along the course of the Jihan. The western section is uniformly flat ; the eastern plain is dotted with isolated crags often crowned with ruined castles, and rising up like islands in the sea. The total area of the Cilician plain is about 1,750 square miles.

The plain of Cilicia is fertile, and of high economic value. But its chief importance lies in its position as the point of junction of the land routes between Anatolia, Syria, and Mesopotamia. A large part of the trade of Eastern Anatolia, Upper Mesopotamia, and Northern Syria naturally finds its outlet in the harbours of Cilicia.

Plain of Issus

The plain of Issus may be regarded as an annexe of the Cilician plain, from which it is cut off by the Jebel Missis. It lies at the north-eastern corner of the Gulf of Alexandretta, north of the town of Alexandretta. This plain is of time-honoured strategical importance, as the first place where an army crossing the Amanus range from Syria into Cilicia can deploy.

A low spur of the Amanus range cuts the plain into two parts, a northern and a southern. The northern part has an area of some 25 square miles ; streams are few and population

scanty. The southern part is well-watered, fertile, and populous. This district is famous for its oranges, of which there is a considerable export. The plain of Issus is traversed by a branch-line running from Toprak Kale on the Baghdad Railway to Alexandretta.

Pamphylian Plain

The plain of Pamphylia is hemmed in by the mountains of Rough Cilicia and Pisidia, by the east Lycian range, and by the sea. It has an area of 2,200 square miles, divided by the course of the Ak Su into two nearly equal portions. To the east, it is traversed by two other rivers, the Köprü Su and Menavgat Chai, the latter of which may be taken as the eastern boundary of the plain. The western half is watered by the Düden Su, or 'underground river', whose course is visible only at intervals, and which enters the sea in several mouths a little east of Adalia.

The plain of Pamphylia is not uniformly level. Passing from east to west, three distinct levels may be observed :

1. From the right side of the Ak Su to beyond the Menavgat Chai there stretches a flat uniform alluvial plain, stoneless, and marshy in several places, and said to be largely under water in winter. There is no information regarding the height of this plain above sea-level, but it is not considerable.

2. West of the Ak Su, this plain is dominated by a terrace with a sharply-marked perpendicular escarpment, which stands 100 ft. above the lower plain. This terrace forms a stony plateau, which extends from the sea to merge in the mountains to the north. The escarpment is particularly steep where it meets the sea in the neighbourhood of Adalia. The terrain consists of travertine, covered with a thin layer of brown friable soil. Its surface is cut into elevations and depressions, the latter sometimes taking the form of craters, sometimes that of valleys.

3. Farther to the west, a second terrace rises above the first. It too has a perpendicular scarp, and stands 170–200 ft. above the first. The edge of this terrace projects towards

the south-east, forming an angle pointing at Adalia. From this point the edges run west to the Lycian mountains and north to merge in the Pisidian mountains.

The plain, in so far as cultivated, is very fertile, but population is sparse and tillage in a backward condition. The chief centre of population is the sea-port of Adalia.

Gök Su Valley

Ermenek and Mut are the principal centres of population in the upper valley of the Gök Su, but the most important part of the valley is the plain of Selefke through which the river runs to the sea. This plain is formed of yellow clayey limestone and sandy alluvial deposit which has been carried down by the Gök Su. It projects towards the south in a low spit called Lissan el-Kahbeh. The middle of the plain is occupied by stagnant pools and high sandhills, covered with thorny evergreen shrubs. Near the river are pasture lands of coarse grass which support large herds of cattle. There are few trees. The town of Selefke lies at the point where the river enters the plain : the harbour is some distance to the south-west.

Koja Chai Valley

This valley is fairly well cultivated and is watered by numerous tributaries. The lower valley is swampy, but the marsh is said to be shallow, and capable of being drained easily. Higher up there is good grass in summer, and a fair amount of cultivation. Much of the valley is covered with thick brushwood, but the soil is very fertile, and the important ancient ruins show that it once supported a large and prosperous population. The fact that a railway has been projected to tap this valley (see p. 275) is also an index of its potential fertility.

Elmaly Plateau

This plateau may be described as consisting of two plains, one to the east and north-east, the other to the south and west, a few hundred feet lower. The latter for several weeks

after the snow disappears from the hills remains too swampy for cultivation, and the ploughing season is therefore late. Both plains are large tracts of corn-bearing land. The hills bounding the plateau on the north are quite bare, while those on the south are well wooded.

The chief crops are wheat, barley, maize, chickpeas, and fruit. Water is abundant, and the climate is healthy, with a low temperature. The plateau takes its name from the town of Elmaly, which has a population of 3,000 to 4,000.

Coast

The southern coast of Asia Minor is known to sailors as Karamania. East of the Dalaman Chai, the coast falls into four well-marked sections, the Lycian coast, the Pamphylian coast, the coast of Rough Cilicia and the coast of the Cilician plain.

On the Lycian and Rough Cilician sections, the mountains generally drop sheer into the water, and the coast is fringed with small islands and rocks. The sections fronting the Pamphylian and Cilician plains are low and sandy. On the Lycian coast, west of Cape Khelidonia, there are several safe harbours, such as Makri, Kastelorizo, and Kekova; east of Cape Khelidonia, especially at Adalia, Selefke, Mersina, and Alexandretta, there are open roadsteads.

There is no tidal rise on the Karamanian coast, but southerly and westerly winds raise the water sometimes as much as two feet, and northerly and southerly winds lower it similarly, above and below the normal level.

The direction and rate of the currents in the extreme eastern parts of the Mediterranean are not yet thoroughly known. The current on the coast of Karamania, unless affected by gales, generally sets westward, its rate increasing as the distance from the coast of Syria becomes greater. A short distance from the land it is weak, but near the coast its rate is occasionally considerable.

II. *The Aegean Zone.*—From the point where it begins to break through the rim of Taurus, the river known in its lower

reaches as Dalaman Chai forms a distinct geographical boundary. Crossing it we enter an area which belongs to the west of the Anatolian peninsula.

This western region of Asia Minor is very highly diversified. Mountain ranges of the most varied conformation and direction are divided by great valleys which in some cases stretch right from the edge of the central uplands down to a coast unequalled for variety and giving exit to many important rivers. These valleys, produced by the general sinking of the land in remote geological periods, are at once the most fertile areas for cultivation, and the natural avenues of communication with the interior. The region as a whole falls geographically into five distinct parts.

(1) The area bounded on the east by the Dalaman Chai and on the north by the lower Maeander valley.

(2) The lower basins of the Maeander and the Gediz Chai.

(3) The Bergama region, including the mountain blocks north and south of the Bakyr Chai valley.

(4) The Mysian forest area north of the Marmara–Aegean watershed as far east as the Sakaria valley down to Adabazar.

(5) A transition region to the central plateau covering the middle and upper basins of the Maeander and Gediz Chai.

(1) In the mountain country south of the Maeander valley and west of the Dalaman Chai the spurs and outliers of Taurus come right down to the coast, which is consequently unprovided with a fertile hinterland and convenient lines of communication. The coast itself is very rich in harbours which in the early days of sea-faring favoured the establishment of towns depending on sea-borne traffic and also, at different periods in history, provided convenient bases for piracy.

The mountain-system of this region (roughly the ancient Karia) is so complicated that only a bare outline of it can be given here. Along the Dalaman Chai valley runs a more or less continuous range of mountains culminating in the north in the mountains above Denizli and on the south in the broad and little-known mass of Sandras Dagh. For a considerable

distance the range forms the eastern rim of the extensive upland plateau of Davas, and opposite the southern part of this it encloses a fairly large undrained depression known as Bars Ova. On the south an extensive depression, most of which was no doubt formerly an arm of the sea, runs up to the foot of Sandras Dagh. A considerable part of this is now occupied by the Köijigez lake, and the rest by the delta plain of the stream draining that lake and that of the Dalaman Chai.

On the south-west Sandras Dagh is continued by broad undulating hills in the direction of Giova and Mermeris. Between the latter place and Giova bay this rolling upland is broken by a well-defined limestone ridge running roughly north and south. Westwards the hills project in the much indented peninsulas which terminate respectively in Cape Alupo and the promontory of Knidos. Of these peninsulas the former has an irregular surface with rocky and sharply-defined heights. The latter shows a more rounded outline, except on the promontory of Knidos itself where the rock formation is limestone.

The northern slopes of Sandras Dagh form the southern rim of the Davas plateau already mentioned. Its western rim is a tangled group of mountains which on the south-west falls to the China Chai valley and on the south meets the spurs which Sandras Dagh sends out to the north-west towards the Mughla basin. The northern rim is formed by the mountains behind Denizli. The plateau itself has roughly the form of a quadrilateral whose sides are indented by spurs of the mountains already referred to. It falls roughly into a lower northern and a higher southern portion, the former with a general elevation of 3,000–3,300 ft. and the latter between 3,300 and 3,600 ft. The drainage of the inner slopes of its mountain rim furrows its surface in a large number of canyon-like valleys and escapes at the north-western end of the plateau as the Ak Chai, one of the main lower tributaries of the Macander.

South and west of the upper China Chai valley stretches a mountain region the upper levels of which form extensive plateaus. This hilly region falls abruptly on the south to the

sea, leaving only a few small plains where streams have deposited strips of alluvium, and sinking gradually westwards to terminate in the promontory of Budrum. It is also divided into two unequal portions by a depression which runs from the neighbourhood of Gereme to that of Mendelia and from which subsidiary depressions extend westwards to the gulf of Mendelia.

The rest of the Karian mountain region, if we exclude the northern rim of the Davas plateau, may be treated as a whole. Here three main features may be distinguished:— (*a*) Along the west coast from Asyn Kale to the Maeander mouth and in places along the edge of the Maeander valley the country rises in a kind of terrace varying in height from 600 to something over 1,300 ft. (*b*) Behind this terrace, and rising steeply on the north from the Maeander valley, stretches a gently undulating upland region the height of which, if we exclude the valleys, ranges from 1,000 to 3,000 ft. (*c*) Above this the massif and ridges of Beshparmak Dagh, Tekkeler Dagh, Gök Bel, and Madaran Dagh rise in sharp contrast to the general level. The relief of this mountain system is everywhere irregular and the summits are characterized by great diversity of height and form. The greatest altitudes are reached in the Eli Dagh (5,000–6,000 ft.) and Madaran Dagh (6,020 ft.). Except for the main depressions, those of the China Chai and Ak Chai, the valleys take very winding courses throughout the whole region.

The only section of the Karian district still to be outlined is the northern rim of the Davas plateau. This is formed by the Karynjaly Dagh, Avdan Dagh, Chybukly Dagh, and Buba Dagh. The first of these rises fairly gently from the Maeander valley to an undulating plateau varying from 2,300 to 3,300 ft. in the north to 5,000 ft. in the south-east, gradually contracting in the latter direction. The Naryn Gedik pass separates it from the broad rounded mass of Avdan Dagh which projects southwards above the plateau and on the east merges in the range of which the chief portions are known as Chybukly Dagh and Buba Dagh. Of these the Chybukly Dagh is a rounded

wall with a fairly uniform level of 4,600 ft. to 5,000 ft., rising farther east to summits of 5,900 ft. Still farther east the mountain wall rises to 7,600 ft. in the steep, pyramidal peak of Buba Dagh, and as it is followed eastwards falls nowhere below 6,500 ft. broadening in that direction to the plateau of Gerziler Dagh. East of Gerziler Dagh the range contracts to 5 miles or less and continues in a series of summits varying from 3,300 to 5,500 ft. With these summits should be included the broad ridge of Khonas Dagh which lies east of the Dalaman Chai valley but is separated from the rest of the range only by a narrow pass.

The greater part of the country outlined above is well wooded. Along the coasts where the climate is typically Mediterranean maquis is the chief vegetation. This gives place inland to evergreen and deciduous scrub. Among forest trees deciduous varieties are almost completely absent. The chief tree is the pine, great belts of which cover many of the mountains.

(2) The country lying between the lower valleys of the Maeander and Gediz Chai presents much more sharply-defined physical characteristics than that just described. The determining features here are the twin mountain systems known in ancient times as Messogis and Tmolus which unite east of Kelles and here abut on the transition region of the plateau described on p. 48 ff. below. The depression between the two systems, drained by the Küchük Menderez (anc. Kayster), is broad and easy, but as there is no easy passage over the eastern end ridge where they unite, this valley has little importance as a means of approach to the central plateau. The great depressions on the north and south, on the other hand, meet no such barrier and impose themselves as the main entrances from the western coastlands to the plateau.

The Messogis chain properly so-called begins east of Ayasoluk. It extends westwards, however, in a number of heights and ridges forming a system which may be compared in shape to a two-pronged fork. The southern prong, in contrast to the rounded outlines of the northern prong formed by the

Barbandon Dagh, Alaman Dagh, and Karaja Dagh, is of bold outline. The western curve of it is the steep continuous ridge of Samsun Dagh which, on the north-east, falls to a broad depression running between Sokia and Scalanova.

The southern slopes of the western portion of Messogis come down in gentle spurs to the Maeander plain and have an average height of about 1,000 ft., except behind Aïdin where they reach 2,300 ft. The northern side falls more abruptly, from about 1,000 ft. in the west and about 4,000 ft. in the east. The upper levels are, in general, formed by broad ridges overtopped by higher crests. The valleys as a rule are fairly narrow, but widen out in places and are often cultivable.

The eastern portion of the system may be said to begin south of Bazaryeri. There the range has a breadth of about 14 miles. The general level now rises to about 5,000 ft. in the Baliamboli Dagh, sinking again with the Alem Bey Dagh to 3,300 or 3,600 ft. The breadth also increases, the range extending northwards in broad undulations to a width of 18 or 19 miles between Nazly and Dagh Derbend. East of this the range narrows and the height decreases till the system ends abruptly with the Sazak Dagh (alt. about 3,000 ft.) which overlooks the plain of Hierapolis.

Like the Messogis system that of Tmolus may be considered as formed of a western and an eastern portion. On the north side of the western portion lies a maze of foothills broken by steep-sided ravines. The mountain sides, both on the north and south, are more uniform but rise fairly steeply, forming in places imposing walls of rock (e. g. behind Ödemish). From the upper edge of the mountain slopes there stretches back an undulating region of high plateaus broken by rounded hills and steep ridges, the general direction of which is north or north-east. Dominating the whole rise isolated peaks, the limestone summit of Mahmud Dagh on the west (alt. about 4,300 ft.), the marble mass of Gyr Dagh north-west of Ödemish and, highest of all, the main summit of the system, Boz Dagh (6,985 ft.).

East of Boz Dagh the system continues in the long ridge of

Kangal or Pirnar Dagh which runs north and south with a greatest altitude of about 6,500 ft. Then it assumes the form of a broad-backed chain stretching eastwards and rising in Chaush Dagh to between 4,500 and 5,200 ft., and in Mezargidi to 5,900 ft. The range narrows more and more towards the east. South of Alashehir it is cut through by the valley of Derbend Dere and the general level falls abruptly to about 3,300 ft. A short distance farther east, at the Kyzyk Dere, the average height is only about 2,600 ft., above which the Mehmedli Dagh, in which the system joins that of Messogis, rises not more than from 300 to 600 ft.

The Tmolus system at its western end falls to a broad depression running between Torbaly and Nif. On the north-west side of this depression rises a high massif, with ridges lying generally north-east, known as Takhtaly or Nif Dagh. Its grey walls, though 6–7 miles distant from Smyrna, appear to overhang the town from near at hand. It is an outlying part of the continuous mountain wall on the north, the ancient Sipylos, from which it is separated by the pass crossed by the main caravan road from Smyrna into the Gediz Chai valley.

The Sipylos block is divided into a western and an eastern portion by the pass of Sabanja Beli. The former, known as Yamanlar Dagh, at its western end presents the appearance of a ridge with well-defined peaks. The eastern portion, Manisa Dagh, is a striking mass, chiefly of limestone, which rises by steep slopes on the north to broad upland plateaus. On the southern side the fall is less abrupt.

Some description must be added here of the hill country west of the plain of Jimovasy, where the mountains project westwards towards the island of Khios. The hills between the plain and the depression running between Vurla and Sivri Hissar form one continuous undulating system, the southern portion showing rounded easy outlines. In the northern portion the main ridge is the Kyzyl Dagh which rises gradually to the north. North-west of the latter lies a limestone ridge ending on the north in the striking twin peaks called the Two Brothers, which serve as landmarks for vessels

entering the Gulf of Smyrna. The hills west of the Vurla depression may also be considered in two portions separated by a depression occupied by bare hills. The southern area comprises the hilly promontory known in ancient times as Mt. Corycus. The northern stretches northwards in the peninsula of Karaburun and consists in the main of bare, rolling uplands rising to the steep continuous limestone ridge of Boz Dagh, which runs north and south.

The region outlined in the foregoing paragraphs is the most sparsely wooded district of the west of Asia Minor. Maquis is found nearly everywhere in the coastal districts, and pine forest is met with here and there. The western end of Tmolus has been largely deforested. The corresponding end of Messogis is better wooded and there are extensive areas of forest on Samsun Dagh.

The eastern ends of the two systems must have been formerly covered with forest which has now largely disappeared. There are still, however, fairly extensive woods in places.

(3) This district falls naturally into two divisions—south and north of the Bakyr Chai respectively. The western block of hills in the southern division goes by the general name of Yund Dagh and forms gently undulating high plateaus now rising to cones and ridges, now sinking to broad valley depressions. The broad ridge of Dumanly Dagh (alt. 3,000 ft.) connects the Yund Dagh with the massif of Sipylos. To south-west and south-east, behind Fochatyn and in the direction of Mermere respectively are outlying groups which have no special features to distinguish them from the main system. On the north-east the Yund Dagh merges into a block of mountains of much bolder outline. The most northerly of these is the double ridge of Trakhala Dagh, south of which is the steep-sided flat-topped mass of Enaz Dagh. East of the latter lies the broad bare chain of Chamlyja Dagh which falls on the north in two well-defined steps and slopes steeply on the east to the plain of Kyrkaghach. South-east of it low foothills stretch north-eastward towards a serrated ridge which on the west falls in easy undulations to the plain of

Gelembe and on the south-east merges into the border region of the plateau (see below, p. 48 ff.).

North of the Bakyr Chai valley, on the coastal side, rises a mountain system broken into a maze of rounded summits by very winding, often narrow, valleys. Overlooking the sea on the south the foothills form a monotonous, uniform landscape dominated here and there by a few conical peaks. Farther north these coastal foothills rise in an undulating plateau called Armudova.

The watershed between the Bakyr Chai valley and the Sea of Marmara has rather the nature of a plateau than of a well-defined ridge. On the south side of the water-parting there is one considerable upland plain, that of Kosak (alt. between 1,400 and 1,600 ft.). In this plain the drainage of the neighbouring hills collects, to make its way down an alternately narrowing and widening valley to the sea near Ayasmand. The hills on the west side of the plain are plateau-like. On the south they are also flat but rise to a watershed running from south-west to north-east, the highest summits of which are reached at the south-western end in the Geyikli Dagh which on the south overlooks the district round Bergama. On the north side of the Kosak plain rises the broad chain of Yailanjyk Dagh, north-east of which the whole mountain system culminates in the broad ridge of Madaras Dagh (anc. Pindasos). Its highest summit, called Maia, rises with easy slopes to 4,400 ft.

North-east of Bergama lies the valley system known as Nevahi Bergama, the hills of which from the south rise in a kind of terrace about 800 ft. high. Farther back the landscape is bounded by a wooded ridge, 2,000 to 2,600 ft. high, extending from the hills behind Bergama to the Akmas Dagh which forms the Marmara–Aegean watershed behind Örkütler. On the east side the Nevahi Bergama system is divided from the valley system of Kerasun by a fairly high double range which unites north of the village of Menteshler and widens out to a a plateau dominated by the conical summit of Türkmen Tepe The Kerasun valley system is open and easy, and is the chief

avenue of communication between the Bakyr Chai valley and the plain of Balikesr.

East of the Kerasun depression the Marmara–Aegean watershed forms an undulating plateau about 2,600 ft. high dominated by three prominent peaks about 3,300 ft. in height, the Kavuk Dagh on the west, Deniz Dagh in the middle, and Giran Dagh on the east, the last-mentioned of which slopes down to the upper Bakyr Chai valley.

In the region just described the chief vegetation of the seaboard is maquis. The olive also flourishes here. The chief forest tree is the pine, woods of which cover the mountains north of Bergama, the north side of Yailanjyk Dagh, parts of the Kosak hills, the Menteshler Dagh, and Deniz Dagh. Considerable woods of oaks are found on Yailanjyk Dagh, on the west side of Madaras Dagh, on Akmas Dagh and on the eastern side of Yund Dagh.

(4) The distinguishing features in the country sloping from the Marmara–Aegean watershed towards the Sea of Marmara are three in number, first a coastal range, second a depression lying immediately behind this range, and third a wide expanse of hill country which may be called the Mysian forest area.

(*a*) The coastal range is a chain of swelling downs which, rising not far west of Edinjik fall to a saddle at that place, rise to about 1,000 ft. on the east side of it, fall again to a few hundred feet at Panderma and then, in the Kara Dagh attain an elevation of over 2,000 ft. On the east the Kara Dagh slopes to the valley of the Susurlu Chai beyond which the hills rise again in two ranges separated by the lower valley of the Ülfer Chai. The southern of these two ranges attains a height of something over 1,000 ft. and comes to an end about 10 miles east of Brussa. The northern is higher and continues eastwards, reaching summits of over 4,000 ft. east of the pass crossed by the Gemlik–Brussa road. Further east it declines in elevation and finally falls to the Sakaria valley.

(*b*) The great depression between this coastal range and the Mysian forest country to the south is roughly 80–90 miles long by 5–15 miles in width. Between the lower Gönen Chai valley

and the Manyas Göl it consists partly of plain but for the most part of undulating country with a general elevation of not much over 300 ft., drained by easy valleys and broken by low hills rising to 600 or 700 ft. Between the Manyas Göl and the Abulliond Göl is the widest part of the depression and here the ground is marshy in places. It is practically flat except for some low hills on the east side of the Manyas plain. Patches of the flat, mostly east of the Susurlu Chai, are broken by undulations 200–300 ft. high. The eastern end of the depression is partly occupied by the low hills in which the southern section of the coastal range in this region ends, partly by the plain of Brussa. The plain of Yenishehir may be regarded as an outlying portion of the depression on the east.

(*c*) The highlands lying behind the coastal depression may most conveniently be treated in two main areas, west and east of the Susurlu Chai valley respectively. The western area sends out a projection westwards in the promontory of the Troad. The orographical centre of that district is the Gülgen Dagh and here its three main valley systems, those of the Menderez Chai, Bigha Chai, and Gönen Chai unite. South-south-west of the Gülgen Dagh rise the pine-covered slopes of Mt. Ida, the culmination of a range which overlooks the whole of the northern shore of the Gulf of Edremid. The rest of the hill system is not well known. Mention may, however, be made of a lofty and continuous range along the western side of the Gönen Chai valley and also of a chain which, starting from the Marmara coast at Cape Karaburun, runs parallel to that coast and afterwards to the Dardanelles, the high summits lying 5–10 miles inland. The effect of the latter range is to direct the main drainage and the longer valleys towards the north-west or north-east.

The western region of the Mysian forest area properly so-called is distinguished from the region east of the Susurlu Chai by its general lower elevation. There is no marked slope to the north. The ridges mount to 1,000 ft. or more, but are seldom sharp. Individual heights may attain 2,500 or 3,000 ft.

The watershed between north and south is not a well-defined ridge but rather a plateau across which the line followed by the water-parting winds irregularly eastwards. The valleys frequently take very winding courses, sometimes through narrow glens, at other times with easy banks which give room for cultivation and pasturage.

In contrast to the plateau-like nature of the hill-country west of the Susurlu Chai, that to the east of the river is very highly diversified. The whole area is a conglomeration of summits and ridges of varying heights and directions, intersected by deep, winding valleys often wild in character. The general slope of the country is towards the north, with a general westerly inclination. The broad mountains between Chatal Dagh and Mt. Olympus reach, at the most, a height of 3,000 ft. Between Chatal Dagh and the depression in which Balat lies stretches a region of tangled hills broken by deep valleys above which the highest summits rise to heights varying from 3,500 to 4,250 ft. South of the Balat depression the country rises till it culminates in the Alacham Dagh, Uluz Dagh, and Ak Dagh (5,250–7,100 ft.) which fall on the east to the Inekullar Chai and on the west and south to the deep valley of the Simav Chai. South of the latter the chain formed by the Kepez Dagh, Demirji Dagh, and Simav Dagh, and known in ancient times as Mt. Temnos, forms the southern limit of the area under discussion. East of the Inekullar Chai rises the chain of Egrigöz Dagh which there forms the eastern boundary.

The Keshish Dagh (anc. Olympus Mysius) stands at the north-eastern corner of the Mysian mountain country as a bastion 25 miles long and 6 to 10 miles broad, with a general direction from west-north-west to east-south-east. The main mass, for a distance of 12 or 13 miles, has a height of from 6,500 to 7,800 ft. The summits are rounded and the highest reaches 8,366 ft. At its south-eastern end the main mass is connected by a high ridge with the broad rampart of Dumanich Dagh whose summits reach a height of over 6,000 ft. On the west this ridge falls to the upper valley of the Ülfer Chai. On the east the Dumanich Dagh itself appears

to stretch out to an undulating highland with an altitude of 5,250 to 5,600 ft.

The system formed by Mt. Olympus and Dumanich Dagh is not only the highest but also the most extensive high range in the north-west of Asia Minor and it forms an effective climatic barrier between the damp coastal region and the dry country of the interior.

The seaward face of the coastal range described on p. 45 is characterized by the usual Mediterranean type of vegetation. The landward side is generally bare. The coastal depression is practically treeless. On the other hand the mountain country to south is one of the best wooded regions in the Anatolian peninsula. Much of the Troad is wooded and the pine forests of Mt. Ida are exploited. Between the Troad and the Susurlu Chai the hills have been largely deforested though there are still extensive woods in places. East of the Susurlu Chai the timber has suffered less. The forest here is not light and scattered as in the Mediterranean region, but close, with large tree trunks and, in places, with a thick undergrowth of deciduous oaks. Generally speaking, non-coniferous evergreens are unimportant. The predominating trees are a variety of pine and the beech. The whole region is essentially a wooded area, with large belts of virgin forest.

(5) Lying between the areas already described and stretching eastwards towards the central plateau is a region of rolling uplands and plains which may be described as an area of transition to the central plateau. This region extends as far west as the depression running down from north of Ak Hissar to Salykhly. It may be considered in two portions, west and east respectively of the line Murad Dagh–Ushak–Alashehir.

(*a*) The surface of the western portion, if we exclude the district from the extreme west to the upper basin of the Kum Chai where the level rises gradually from 1,300 ft., is a plateau varying from 2,600 to 3,300 ft. in elevation stretching from the basin of the Kum Chai on the west and the Adala hills on the south to the Gediz Chai basin on the east, with depressions in the interior of that area and several more or less

isolated massifs and summits dominating it. It falls on the south in a continuous though not very steep slope to the Alashehir Chai valley and shows a general rise to east and south-east. Round the edges where the hill-character is most pronounced the surface is undulating and commanded by single rounded summits and ridges. The valleys here are winding and narrow, though not particularly wild. Inside the hill-belt the general level remains the same but the valleys are broad, with more or less steep sides. Where the ground rises it does so not gradually but in steps: the hills are flat-topped and the dominating heights are volcanic masses rising either in rocky peaks or as broad, buckler-shaped masses.

(*b*) The eastern portion consists in the main of wide expanses of nearly level plateau, dominated by more or less well-defined mountain blocks. The most extensive of these plateaus is the Banaz Ova, an area which measures about 75 miles from south-west to north-east with a width varying from under 10 to over 30 miles. Seen from a distance the surface of this area appears as an expanse of level plain, white in colour or red where the ground is sandy. It is, however, cut by a number of streams whose beds, as they approach the south-western end, form deep canyons. Moreover, the surface is not of uniform elevation but rises and falls in very gentle undulations. There is a general rise from south-west to north-east. At the former end the ground rises in steps from the plain of Hierapolis to a height of about 3,000 ft. on the right bank side of the Maeander and to quite 3,300 ft. on the left. Then the country sinks to about 2,100 ft. round Güllü and to 2,300 or 2,600 ft. on the east side of the Banaz Chai. Farther north the elevation rises again as the plateau reaches its broadest portion. Across the line Inči–Sivasti the height is about 3,200 ft. in the middle, sinking to about 2,500 ft. at the edges. Still further north, along the line Ushak–Sivasti, the general elevation is about 3,000 to 3,300 ft., the greatest height here also being about the middle. From here the ground still rises gradually to a height of 3,300–3,600 ft., the plateau meanwhile becoming narrower till it ends below Murad Dagh.

Between the Banaz Ova and the country to west, east, and south rise a number of fairly well-defined mountain groups. On the south-west the Omur Baba Dagh and Kemer Dagh rise to a relative height of 700–1,600 ft. East and north-east of Takmak is the Akhmedler Dagh group (alt. 4,230 ft.) and north of Ushak the broad block of Kyzyl Dagh (alt. 5,000 ft.) and the steep summits of Elma Dagh (alt. 5,900 ft.). On the north is the Murad Dagh which rises in spurs to a double ridge uniting on the east to form a plateau nearly 7,000 ft. in elevation. On the north this mountain falls with almost unbroken slopes to a north-westerly projection of the central plateau.

At the south-eastern end of Murad Dagh the Banaz Ova abuts on the rim of the central plateau, the ground here rising first in a well-defined step about 700 ft. high and then in a series of mountain groups, Ahar Dagh (alt. 6,500 ft.), Karshak Dagh (alt. 6,050 ft.), and Burgaz Dagh (alt. 5,000 ft.).

From Burgaz Dagh south-westwards a number of ridges of no great relative elevation separate the Banaz Ova from the country to the south-east. Enclosed within these ridges is the Chal Ova, which lies at nearly the same elevation as the Banaz plateau. A few limestone summits rise out of it.

On the east side of the chain of ridges just mentioned the ground falls to the upper Macander basin of which the chief portions are formed by the almost level plain of the Baklan Ova and Chivril plain, which are themselves connected by a strip of plateau 6–10 miles in width along the left-bank side of the Macander. On the east side of this strip of plateau rises another plateau with an undulating surface lying at a height varying between 200 and 500 ft. above the Chivril plain. At the western end this plateau is dominated by a lofty and little-explored group of mountains called Beshparmak Dagh and Maimun Dagh, the latter of which rises with steep sides above the western end of the Ajy Tuz Göl and falls again farther east to low hills along the north side of the lake. The eastern end of the plateau apparently merges in a wide and fertile but little-cultivated plain called Taz Kyry which is

bounded on the east by a spur from the Taurus system to south. This spur, and other spurs from the southern mountain-system forming the chain of Jebel Sultan and Samsun Dagh, which bounds the Dineir Ovasy on the east and merges in the mountain block of Ak Dagh above the Chivril plain, may be regarded as the boundary in this area between the transition-plateau region just described and the central plateau.

In the western parts of the transition region there is a good deal of timber on the hills and in the valleys. Large areas of plateaus of course show the typical steppe vegetation, generally deciduous oak-scrub, which eastwards gives place more and more to thorny shrubs. In the eastern portions the hills are covered either with deciduous scrub or extensive woods, the latter especially on Murad Dagh, Ahar Dagh, Karshak Dagh, and Chokeles Dagh and between the latter and the plain of Hierapolis. The vegetation of the Banaz Ova and the neighbouring plateaus and plains to south and east is only in places typical of the central plateau. As a rule there is some depth of soil and the natural vegetation is thus forest. Where the forest has been destroyed the ground is now occupied by oak scrub or pasture, or infertile plough-land.

Rivers

There are two main watersheds within the western area of Asia Minor :

1. That between the Maeander basin and the south coast ;
2. That between the Marmara and the Aegean.

Both of these run roughly from west to east. The country between the two main watersheds is divided into two great depressions which the Gediz Chai and Menderez Chai drain west to the Aegean.

The river valleys themselves are of very varied character. Several of the most important rivers rise on the plateau and for a good many miles of their course have only a slight fall. Consequently here they take winding courses and the geological formation is often such that the valley sides are

abrupt, a characteristic which becomes more noticeable the greater the length to which the plateau country extends. So that it results, as e.g. in the case of the Maeander, that the valleys become canyons which constitute serious obstacles to traffic across the plateau. When once these rivers begin to break through the mountain rim enclosing the plateau the characteristics change. The V-shaped valley now is the rule, modified of course by particular types of geological formation and by the presence of valley plains where the mountains recede on either side. The courses of the rivers through the mountains is in many cases not accurately known, as the valleys are often impracticable even for pack-traffic.

The rivers of the west of Asia Minor have hitherto had practically no importance as waterways. A few of them, such as the Trojan Menderez Chai, the Gönen Chai, Ülfer Chai, and Dalaman Chai are used for lumbering. Generally speaking, the currents are too strong and the depths too shallow to admit of upstream navigation. Exception must be made, however, in the case of a few rivers draining north. Thus, the Susurlu Chai is practicable for kaïks up to Mikhalij and was formerly navigable by small tugs to within a short distance of Sultanshehir. The Ulubad Chai, which drains into the Susurlu Chai, is navigable by sea-going kaïks which ascend it to reach the Abulliond Lake. The most important river of the west, the Maeander, has a strong current and does not appear to be navigated. The only other stream used for navigation is that which drains the Köijigez Lake. Sea-going kaïks ascend it in connexion with the timber trade.

More important than the use of the rivers as waterways is their employment in furnishing power for mills. Even quite small streams are exploited in this way in the mountainous districts of the interior.

Water-wheels such as may be seen in Mesopotamia are little used for raising water from the rivers for irrigation, though some have been seen on the Porsuk Chai. Canalization is more common, though even this is not greatly developed.

Some details are added of a few of the most important

rivers. On the west and north there are a number of other fairly large streams which are important economically for the cultivable land lying within their basins or as providing means of access up their valleys into the hinterland. The chief of these are, on the west, various south bank tributaries of the Maeander, such as the Ak Chai, Dandala Su and China Chai, and the Bakyr Chai, and on the north the Trojan Menderez Chai, the Bigha Chai, Gönen Chai, Avshar Chai, and Ülfer Chai.

Dalaman Chai (anc. *Indus*)

The northern branch of this river, the ancient Kazanes, rises in the Khonas Dagh, and flowing south-east through the marshy plain of Kara Öyük Bazar, is fed by a main tributary which comes from the high-lying valley of Khoros and Göne through a gorge in the eastern ridge.

The southern arm rises between the Karynja Dagh and the Kartal Dagh, and fed by numerous streams flows north down an easy valley which gradually widens out. After some miles an important tributary, the Pirnaz Chai, comes in on the left, and the united streams, forming a considerable river, continue north down a wide valley which opens out into the Gölhissar Ovasy. The lake of Gölhissar lies some distance east of the river, separated from it by a slight elevation. The southern branch now begins to be known as the Khorzum Chai, from the important village of Khorzum which lies some short way from its left bank. Not far below this village the important Chandyr Chai comes in from the south-east, and a little further down another large stream called Ak Su. By this time the river has taken a north-westerly trend and still further down the valley it bends west to join the northern branch.

The upper reaches of the united river are known as the Gereniz Chai. The stream now enters the mountains and its valley becomes gradually narrower and the sides steeper. In this stage it receives few tributaries. Before long it is unfordable, with a swift current. A short distance below

the right-bank village of Assar the river enters a narrow ravine. Some miles lower down it is swelled by an important tributary, the Karanfyl Chai. This stream comes in on the left bank and is perhaps the largest feeder of the river in its middle course.

About this point the main stream apparently begins to be called Gürlek Chai, a name also given to a feeder which comes in on the left from the village of Gürlek. Below this point the river seems to flow for some miles in an impassable gorge. Then the valley opens out and the river is crossed by a stone bridge called Ak Köprü. Thence the valley opens still more until the river enters an alluvial marshy delta through which it makes its way to the sea. The lower reaches are known as Dalaman Chai from the village of Dalaman in the delta plain.

Menderez Chai (anc. *Maeander*)

The upper streams of the Maeander rise near Dineir, whence the course of the river is west-north-west for some miles, into the marshy Chivril plain, and then west. Here it receives a right-bank tributary, the Chufru Chai, which dries up in summer. The general direction now changes to south-west and the stream-bed deepens. Some miles south-east of Demirji a sharp bend is made north-west into the Chal basin, whence the river issues into the Banaz Ova. Here the stream bed forms a deep canyon, first in a north-westerly, and then in a south-westerly, direction. A short distance after turning south-west the river is greatly swelled by most of the drainage of the Banaz Ova.

The Maeander continues down a canyon, passing close to Güneï where the river bed is about 1,600 ft. below the level of the surrounding plateau. A few miles east of Buladan it emerges into the triangular plain of Hierapolis. Here it is fairly broad and the current is swift. It now bends southwards for a few miles till it is joined by the Chürük Su (anc. Lykos) which drains the long trough extending eastwards as far as Bash Cheshme. The main river now bends west. At the bridge opposite Seraï Köi it is over 60 ft. wide and

apparently deep. The valley plain is comparatively narrow till some distance below Ortakchc, at first between diluvial foothills and then for a short distance between the mountain slopes where the Chybukly Dagh projects up to the north leaving a pass barely a mile wide for the river to traverse. Here the lower Macander valley may be said to begin.

Hence to the site of the ancient Magnesia, a distance of nearly 80 miles, the river continues westwards down a gradually widening valley-plain the surface of which is a light sandy loam practically free from stones. The water is muddy and yellow in colour and the stream flows swiftly in a deep bed between firm banks which are not as a rule liable to flood. The windings to which the river has given its name are not everywhere characteristic of it. The main tributaries, the Dandala Su, Ak Chai and China Chai, come in on the left bank.

Immediately west of the site of the ancient city of Magnesia the Gümüsh Dagh projects into the valley plain and diverts the course of the Macander south-west. The valley-plain from here to the river mouth is about 28 miles long by 6–8 miles wide. Opposite the Bafy Deniz the breadth is over 11 miles. The river bed at the present day is higher than much of the adjoining plain and an extensive flood-area and swamps are the result. This part of the valley plain, in contrast to the part above Sokia, is steppe-like and for that reason inhabited largely by nomads.

Küchük Menderez (anc. *Kayster*)

The Küchük Menderez collects its upper waters in the plain of Kelles from a number of streams draining the inner slopes of Tmolus and Messogis. Leaving the plain at its southern corner the river winds southwards through low hills down a fairly broad valley and then turns west skirting the foothills on the north side of the plain of Baliamboli. The valley now broadens as the twin systems of Tmolus and Messogis gradually recede. Some miles east of Ödemish the valley plain expands northwards, to contract again several miles west of that place. Here the river basin is broken into

two unequal parts by outliers of Messogis. The main stream drains the northern and broader portion of the basin and turns southwards at its western end where the ground begins to rise towards the Alaman Dagh. From north and north-west come several tributaries, and the ground in that direction merges over an imperceptible watershed into the plain of Jimovasy.

The plain now is marshy, and the river on reaching the southern end of the valley plain is swelled by the waters of the Bulukjy Chai which collects the drainage of the basin lying between the outliers of Messogis already referred to and the main system. From this point its course is west-south-west down a valley about 1 mile wide at its narrowest point which separates the Alaman Dagh from the spurs of Messogis. Before the river reaches the sea the valley widens out to a marshy delta.

Gediz Chai (anc. *Hermus*)

The upper waters of the Gediz Chai are drawn from streams draining from the Ak Dagh, Murad Dagh, and Döshejik Dagh. These unite in the Gediz depression and the river then flows in a south-westerly direction through plateau country receiving as tributaries a number of fairly important streams. Near Yenishehir it breaks through a volcanic ridge and turns west, roughly parallel to, and at some distance from, the mountain rim enclosing the Katakekaumene on the south. Within this area the valley contracts in places where the geological formation is volcanic. At the western edge of the Kula district the valley again narrows as the river breaks through a northerly projection of the southern mountain rim before entering the Borla depression.

In its middle course up to this point the river receives from the north two important tributaries, the Selindi Chai and Ilgi Chai, the latter bringing with it the drainage of the Alaghach Chai and the Ahadlar stream. These two tributaries both take a westerly trend in their lower course similar to that of the main stream. The latter in the Borla depression is swelled by an important tributary from the north-east, the Demirji Chai, the direction of which it now assumes.

After draining the southern portion of the Borla depression the river breaks through the mountain rim by a short narrow valley and at Adala enters the great depression which its lower course follows west to the western apex of the Manisa plain. The river follows roughly the middle of this depression, with many windings, generally between firm earth banks. The water is generally deep and muddy and the current rapid.

Not far west of Adala a feed-channel takes off westwards to regulate the water level in the Mermere Göl (see also below p. 61 f.). Some miles further west the Alashehir Chai (anc. Kogamos) comes in on the left bank. This stream drains the upper part of the great depression above mentioned and is fed by numerous streams from the hills to north and south. A few miles east of Manisa the Kum Chai (Sand River ; anc. Hyllos) enters the Gediz Chai on the right bank.

The river now leaves the Manisa plain at its western apex by the narrow valley separating the Sipylos system from the Yund Dagh. Traversing this it enters the delta plain of Menemen. The river formerly took a general course south-south-west through the delta plain to the Gulf of Smyrna, but as the frequent floods caused great damage to the neighbouring plain and as the silt brought down by it was rapidly blocking up the entrance to the gulf, the river-bed was in 1886 diverted northwards by means of a dyke. The water now drains through a marshy lagoon into Agria Bay.

Susurlu Chai (anc. *Macestus*)

The valley of this river forms a great depression which cuts through the greater part of the wooded Mysian country. The upper part of this depression runs somewhat north of west for about 50 miles and begins with the Simav basin, in the western end of which the drainage of the neighbouring slopes collects to form the Simav Göl. Through the low hills which form the western side of the basin the overflow breaks in a ravine from which it emerges in a cascade.

Some distance lower the valley opens out to a second basin. This part of the valley is about 12 miles long by

2–2½ miles broad. Its sides rise in terraces of varying heights. Below this the valley for a good many miles has the form of a broad trough in which the river has cut its bed to a depth of about 1,000 ft. North of Sindirgi, the hills recede and the river bed lies little below the level of the surrounding plain. The river now turns at right angles northwards down an alternately narrowing and widening valley. At Kebsut, where the valley widens to a plain, it receives on the right bank the most important tributary of its upper course, the Kille Su, which by a valley in general narrow and winding drains a depression roughly parallel to that of the Simav Chai basin up to this point.

From here to Susurlu, where the stream takes the name of Susurlu Chai, the valley is in general narrow. At Susurlu the river enters the plain of the great coastal depression which it drains northwards with a general easterly trend till it meets the barrier of the coastal range. Here it receives on the left bank the important tributary, the Karadere, which drains the Manyas Göl, and a little lower down the Ulubad Chai on the right bank. The river now breaks through the coastal range and enters the sea by a marshy delta.

From a little below Azizie to Mikhalij the river was a good many years ago rendered navigable for small tugs, but no work seems to have been done in recent years to keep the channel clear.

The river is at its lowest in August. It is subject to sudden rises during rain or at the melting of the snows in the mountains, and flooding in the lower reaches has in the past caused considerable damage. Preventive measures against the periodic flooding of cultivable land in the coastal depression would probably be profitable.

Balat Chai and *Tavshanly Chai* (anc. *Rhyndacus*)

The courses of these two rivers, which together drain a great block of the Mysian forest area and unite before entering the coastal plain, are still very imperfectly known and are each known by different names in different reaches.

The main upper feeders of the former are the Inekullar Chai, Egrigöz Chai, and Balat Chai, all of which are formed by the drainage of a large number of streams rising immediately behind the watershed which bounds the Simav Chai basin on the north. The two first mentioned drain northwards and unite some miles west of Harmanjyk to form the Alaja Chai, which, on being joined by the Chardy Chai, then winds west for some miles till it is joined by the Balat Chai. The river now turns in a general north-north-west direction as the Balat or Sinjan Chai till, at the point where the valley begins to open out to the coastal depression, it is joined by the broader and deeper Tavshanly Chai.

The basin of the latter is even longer than that of the Balat Chai, though not quite so broad. Its upper stream is formed by the brooks which drain the Chavdyr Hissar plateau, from which it emerges to flow north-north-west as the Chavdyr Hissar Chai. Some miles south of Tavshanly the valley opens out to the basin in which that place lies. Up to this point, owing to the plateau-like nature of the country, the current is fairly slow and the stream-bed is not deeply cut. From here the river begins to break through the plateau and the valley deepens, still keeping the same general direction. The river is now known for a good many miles as the Tavshanly Chai. A few miles west of Dumanich its direction becomes west, with a general northerly trend. In the district of Beyje it takes the name of Adranos Chai, which it keeps till it joins the Balat Chai.

The united river now drains west-north-west into the coastal depression and turning north breaks through a last spur of the hills at Kirmasti. From here it winds through the plain into the Abulliond Göl, emerging as the slow-flowing Ulubad Chai at the north-western end of the lake, and joining the Susurlu Chai.

Lakes

In the account given above of the river system mention has been made incidentally of several of the lakes which lie

within our area. The majority of these have outlets to the sea and their water is accordingly fresh. The most important are the Manyas Göl, Abulliond Göl, Iznik Göl, Sabanja Göl, and Simav Göl. Besides these there are several lakes which, being undrained, are salt. Among the latter mention should be made of the Mermere Göl and a number of lakes lying east of Denizli. Some details of the lakes enumerated are given below.

Manyas Göl (anc. *Aphnitis*)

This lake covers an area of about 70 sq. miles. The shores are dull and flat and the rolling down-like country which surrounds it, though fertile enough where cultivated, is treeless except on the southern side. This southern shore is frequently flooded and affords rank pasture and water-meadows for the herds of buffaloes which graze on it.

Fishing on the lake is carried on by Cossacks. The fish taken include pike, carp, and a large variety of unknown species. These are salted in large numbers for export.

Abulliond Göl (anc. *Artynia*)

This sheet of water is about 100 sq. miles in extent and much more picturesque than the Manyas Göl, owing to the proximity of the hills and the wooded islands which stud its surface. It is very shallow near the shore, at any rate in the neighbourhood of the town of Abulliond at the north-eastern corner and much of it dries up in summer. It is said, however, to be in places 20–25 ft. deep. It is navigated by boats and by sea-going kaïks which ascend the Ulubad Chai.

The lake is noted for its richness in crayfish, pike, carp, and other well-known varieties and also for a large species known among the Turks as Yayan Baluk. Great quanties of these fish are exported. The fishing is carried on by the inhabitants of Abulliond and other villages round the lake.

Iznik Göl (anc. *Ascania*)

The Iznik Göl is picturesquely situated between wooded hills from which it receives a number of small affluents. It measures about 20 miles from west to east and 6 miles

from north and south. At different points, notably the eastern and western ends of the lake, there are considerable stretches of cultivated plain. That at the western end is watered by an overflow stream the course of which has been controlled by embankments.

The lake water is very brackish, but nevertheless contains carp and other varieties as well as different kinds of shell-fish.

Sabanja Göl (anc. *Sophon*)

The Sabanja lake lies at the extreme north-eastern limit of the area included in this volume. It might have some importance as providing part of a waterway from the Gulf of Izmid to the Black Sea. It was proposed in ancient times to cut a canal from the lake to the gulf and this scheme has also been considered in modern times. At the eastern end the waterway would follow the overflow stream, the Chark Su, into the Sakaria which could probably be made navigable for vessels of low draught as far up as the point where the Chark Su joins it.

There is no information available as to fishing on the Sabanja lake.

Simav Göl

The lake of Simav lies at a height of nearly 2,500 ft. It measures about 5 miles in length from west to east and at the eastern end is about 3 miles wide. The western end is about half that breadth. At the latter end the lake lies close under hills through a gorge in which it drains westwards by the Simav Chai (see above, p. 57). The eastern side is occupied by the plain of Simav drained by a number of streams which flow into the lake.

The water appears to be very shallow and the shores are occupied by a great belt of reeds. These are important as affording materials for the making of mats which are exported from this district.

Mermere Göl (anc. *Koloë* (*Gygaea*) *Limne*)

This lake is about $7\frac{1}{2}$ miles long by 2 miles wide at its broadest point. It has some importance for its fisheries,

exploited by Cossack settlers. The level of the lake has been estimated at a little over 240 ft. above the sea, and it lies slightly below the level of the Gediz Chai, the flood-waters of which help to feed it. As there appeared at one time to be a danger of the lake drying up, a feed-canal was cut in 1890 from the Gediz Chai which now keeps it at a uniform level. In winter it is the haunt of innumerable waterfowl, including wild swans.

The Lakes East of Denizli

These lakes have no drainage outlet. Three of them are quite small, the Salda Göl, Navlo Göl, and Chorak Göl. The remaining two, the Ajy Tuz Göl (anc. *Anaua Limne*) and Buldur Göl (anc. *Ascania Limne*), are extensive. All of them contain fish except the Ajy Tuz Göl, which is too salt. All these lakes are marshy round the edges, and are frequented by waterfowl. There is no information as regards fisheries.

III. *The Black Sea Zone.* The uniformity of character and simplicity of outline which characterize the Taurus range on the south, and the regular alternation of mountain mass and river valley which facilitates the task of description in the west, fail us when we pass over the mountain ridge which runs along the north coast, and attempt to describe the broken country which lies between it and the central plateau. Here the description must dispense with natural grouping of main features, and is involved in somewhat tedious detail. For the sake of clearness, the description of the northern mountain region has been divided into four sections : (1) The coast and the seaward mountain ridge. (2) The intermediate Pontic zone east of the Kyzyl Irmak. (3) The intermediate Pontic zone west of the Kyzyl Irmak. (4) Rivers, cultivation and inhabited areas.

The Black Sea zone is an area, about 700 miles long and from 30 to 60 miles in width, distinct in physical features, climate, vegetation, to some extent in population, and in history.

(1) The northern coast runs roughly west to east, close to

the forty-first degree of latitude. It is marked by great simplicity of geographical outline, and by the absence of those deep indentations so common on the other coasts of the country. With the exception of the peninsula of Sinope, and the peninsula which terminates in Cape Yasun, between Samsun and Ordu, it has no strongly marked projections; its bays and gulfs are wide, and, except the Gulf of Sinope, do not run far into the land. From the Bosporus eastward to Sinope the coast-line is broken by few local indentations: between Sinope and Trebizond, however, these are more numerous, and various small bays and promontories, and even peninsulas and small rocky islets are found.

The coast-line as a whole is characterized by a singular absence of harbours. In its whole length between the Bosporus and the Caucasian frontier there is no harbour that can be called completely sheltered. Sinope alone contains a fair degree of natural protection with sufficient depth of water; the other ports, with the exception of the mouths of the Sakaria River and the Bartin Su which are navigable for a short distance inland by vessels of comparatively shallow draft, are merely anchorages, more or less well protected. Of these anchorages that of Platana, near Trebizond, and of Vona, near Ordu, give excellent protection from the quarters whence gales most frequently come. They also benefit, in common with several other anchorages on the same coast, by the local peculiarity that gales from certain exposed quarters seldom blow home.

The simplicity of outline presented by the coast is due primarily to the mountain system of the region. From west to east a mountain range runs parallel to the sea, and close to it, with remarkable uniformity, and throws seaward no great offshoot ranges except into the peninsula of Yasun. Other northerly offshoots are only in the nature of local and relatively unimportant spurs.

The northern slopes of the coastal range, or of its foothills, generally rise steeply and abruptly from the sea; but occasionally, though to no great extent, cliffs line the water's

edge. More frequent than cliffs are short and narrow breadths of coastal plain formed at the mouths of valleys. These are no more than small level areas varying in width and depth from a hundred yards to a couple of miles or more. Many of these plains are swampy.

The coast possesses also two considerable deltaic plains; one between Sinope and Samsun, formed by the Kyzyl Irmak; the other between Samsun and Unie, formed by the Yeshil Irmak and the Terme Su. Each of these plains has a breadth across the base of about 30 miles, and a depth towards the sea of about 12 miles. The Kyzyl Irmak plain encloses two large salt-water lagoons; on both plains is a considerable area of swamp. Behind all the plains the mountains and foothills rise steeply just as they do elsewhere along the coast.

Eastward from the Yeshil Irmak the main mountain range retires somewhat farther from the sea than between the Bosporus and the Yeshil Irmak; and the lower slopes are somewhat less steep. On this stretch of coast distinct foothills sometimes occur; in places they project into the sea and form promontories, bays and peninsulas.

The peninsula of Yasun, the largest and most rugged projection on the coast, is formed by a mountain mass about 12 miles wide running northward into the sea for about the same distance. Its greatest height is some 3,000 ft.

The great plateau of Asia Minor rises steadily from west to east, from the coast of the Sea of Marmara to the high general level of Armenia; and the coastal range of the Black Sea conforms to this general increase in height and boldness. At the Bosporus the heights are low, and continue low for some 50 miles eastward; then, however, they rise more rapidly. Near the Sakaria they reach 4,000 ft., and thence continue to gain elevation as they pass eastward, till beyond Kerasund they exceed 8,000 ft., and in Lazistan attain 10,000 ft.

The mountain system of this coastal region may be said to lie between the sea on the north, and a more or less con-

tinuous series of valleys on the south forming a continuous depression whose axis runs roughly east and west. Between the sea and this depression the mountains sometimes comprise various subsidiary ridges and valleys running parallel to the sea, but culminating in a main central ridge.

This mass of coastal mountains is linked irregularly at several points to the mountain system of the plateau by ridges of comparatively low elevation extending southward and forming head watersheds of rivers in the long southern depression,.

It is not always possible to say just where the coastal region is bounded on the south side. Sometimes it certainly includes the southern bounding valley of the coast range; but more often it does not, and then the dividing line as to characteristics seems to be indicated by the main general ridge.

Many streams and valleys of varying size cut the seaward side of the range. Both streams and valleys are sometimes considerable; sometimes the streams reach the coast by open valleys, and may even have a navigable channel for a short distance, as the Bartin Su; but more often they are mountain torrents, flowing in narrow, rocky gorges walled in parts by precipices.

In the whole length of the coast there are only six rivers which come down from the interior and actually break through the coastal mountain barrier. The distances of these rivers from the Bosporus, are, the Sakaria, 80 miles; Filiyas Chai, 170 miles; the Kyzyl Irmak, 400 miles; the Yeshil Irmak, 450 miles; the Karshut Chai, near Tireboli, 550 miles; and the Chorukh Su, near the Caucasian border, 700 miles. Of these the Sakaria and the Filiyas, which flow through a coastal region of comparatively low elevation, reach the sea by open valleys. The others pass through the coastal ranges by deep and narrow rocky gorges which sometimes extend the whole depth of the range. Their channels are tortuous, they are walled by rock or by broken precipitous slopes rising for thousands of feet, and their gorges form remarkable gaps cut in the otherwise continuous line of mountains.

The basins of these six rivers cover, perhaps, half the whole area of Asia Minor, and as much of this area is mountain and high plateau on which snowfall is heavy, the rivers have annual periods of flood following the melting of winter snow. During these flood periods the rivers carry an enormous volume of water, but for the rest of the year are very low. The rivers have a rapid fall, and owing to this fact and the nature of their gorges are practically unnavigable, except that on the Sakaria, the Kyzyl Irmak, and the Yeshil Irmak small craft can ascend for a short distance.

It is a significant fact bearing on the nature of the gorges of the Kyzyl Irmak, Yeshil Irmak, Karshut Chai, and Chorukh Su that though each is a complete break in the mountain range not one of them carries a chaussée. Horse tracks alone pass through these openings ; the chaussées have been taken over the mountains.

Eastward of the Filiyas Chai are several depressions which have been used for roads between the coast and interior. The lowest and easiest of these natural crossing places is behind Samsun, where a series of cols and gorges occur and enable the ranges to be passed at an altitude not exceeding 3,000 ft. The other passes used have 4,600 ft. altitude behind Ineboli ; a somewhat similar height behind Sinope ; over 5,000 ft. behind Unie and Ordu ; and over 6,000 ft. behind Kerasund and Trebizond. Other passes are even higher.

The cultivable areas of the coastal region are greater than might be expected from the formation of the country.

They consist of the deltas of the Kyzyl Irmak and Yeshil Irmak ; the various small coastal plains ; the lower slopes of the mountains where suitable for cultivation ; the lower reaches of the seaward valleys ; and a number of lateral valleys lying between the various subsidiary ridges which help to make up the mountain system of the coast.

As a general rule it may be said that the valley and mountain sides are surprisingly fertile ; and that where the soil is not rocky, the slope not too steep, and forest does not exist,

there attempts at cultivation are general up to about 3,000 ft. of elevation.

The chief cultivable area lies between Sinope and Unie, and includes the deltas of the Kyzyl Irmak and Yeshil Irmak, as well as many valleys and mountain sides extending, in places, to 30 and 40 miles inland. The country eastward from the Bosporus to the Filiyas Chai also contains much cultivable land. From Unie to Tireboli there is comparatively little. But from Tireboli onwards past Trebizond there are many fertile valleys and small coastal plains and cultivable lower slopes.

The distribution of population in the coastal region varies considerably and the greatest density is not always upon the chief cultivable areas.

In the comparatively open stretch of country between the Bosporus and the Bartin Su, a distance of nearly 200 miles, the population is fairly numerous. There are no large towns, and no great inland trunk roads carrying traffic of a distant interior, but important coalfields at Sunguldak and Eregli have increased the population to some extent.

From Bartin until the neighbourhood of the peninsula of Sinope is reached the population is more scanty. Around Sinope, however, is another comparatively populous area, due somewhat to the port of Sinope; but also to the existence of cultivable areas, and, to some extent to a trade in timber. This district is another without the helpful factor of a great trade road.

The district which extends from somewhere near Alacham, east of Sinope, to Unie, east of Samsun, a length of nearly 100 miles, and which has a depth of from 30 to 40 miles is at once the most fertile and most populous section of the coastal region. It includes the deltas of the Kyzyl Irmak and Yeshil Irmak, and in it are the large towns of Samsun, Bafra, Charshembe, and Unie. Samsun is the terminal port of one of the greatest trunk roads in the country.

Within a radius of 10 miles from Trebizond is probably a greater population than exists elsewhere within the same

area along the coast, yet here the cultivable area is small. This disproportion is due to Trebizond being a port and place of trade, served by another great trunk road carrying traffic from distant parts of the interior.

From Trebizond onwards to the Caucasian frontier the population is comparatively scanty.

(2) Such in brief outline are the physical characteristics of the coastal zone on its seaward side. The description may be continued by passing up the valley of the Chorukh, which cuts the coastal range near the Russian frontier, and thence proceeding westward through the country behind these mountains.

Here it may be remarked in explanation that, for the purposes of this book, the north-east boundary of Anatolia is taken along the valley of the Chorukh from the sea to Baiburt ; and that the general eastern boundary thence is a line drawn south-westward from Baiburt through Erzinjan and Malatia to the Mediterranean at the Gulf of Alexandretta.

It should be remarked, further, that the inland region now to be described may be regarded broadly as that northern portion of Asia Minor which a more or less mountainous character marks off from the central plateau.

This region, lying between the ridges of the northern coastal mountains, and the plateau in the south, we may call the intermediate Pontic zone. In it the mountain ranges and main valleys, and the small plains to which the valleys sometimes expand, are generally strongly marked and closely packed ; river basins are often narrow ; the immediate valleys of streams often deep and steep-sided ; and there are many rocky gorges. There is also another distinction between this intermediate zone and the plateau proper. The climate of the seaboard with its abundant precipitation produces luxuriant forests and vegetation ; precipitation diminishes from the coast towards the interior, and forest and vegetation vary with it. This climatic influence extends inland over a wide belt of gradual change. But by the time the true plateau is reached forest and scrub have disappeared

or appear only on the upper slopes and valleys of a few mountains. The real plateau country has a steppe character.

Having thus outlined the distinctive character of the intermediate zone we may proceed to describe its physical features in broad detail, passing from east to west.

A few miles south-west of Batum the coastal ranges are divided from north to south, diagonally across their axis, by the great gorge of the Chorukh, a wild, craggy, forested valley which, for some 50 miles, lies within Russian territory. Fifty miles from the sea the valley turns to south-west, and crosses the Turkish frontier, and in this direction ascends for 100 miles towards Baiburt as a deep trough under the reverse slopes of the coastal range on the north-west, and the lofty uplands and mountains of Armenia on the south-east. The coastal chain here is at its highest, and so broken and serrated that it has earned for Lazistan, the country on the seaward side, the Turkish name of Chergistan, or land of sharp points. The range here, as Parkhal Dagh, attains an altitude exceeding 11,500 ft. The lowest pass across this alpine chain into Lazistan is about 9,500 ft. in height. On the other side of the valley the heights soon exceed 8,000 ft. As Baiburt is neared the valley opens out to wide rolling uplands. The Chorukh valley turns south at Baiburt, and then to east, and passes out of our district, but the valley of a tributary continues the south-west direction of the main valley to a high broad col of upland, some 25 miles west of Baiburt, by which the coastal ranges are united to the mountain system of the interior. Here the basins of the Chorukh, Kelkit Irmak, and Karshut Chai meet ; and to the north the chaussée from Trebizond to Erzerum crosses the coastal range by a depression, whose altitude is 6,500 ft.

On a north–south line taken hereabouts, and passing through Erzinjan, the high plateau which stretches from Persia into Asia Minor is at its narrowest. The main mountain ranges of the south, first those of the Dersim, and then of the Antitaurus south of Sivas, approach the northern coastal ranges ; and the neck of the peninsula is filled with

ranges running east and west and valleys and lofty uplands.

Looked at broadly the country west of this line, and enclosed between the coastal mountains in the north and the Dersim and Antitaurus masses in the south, may be resolved into its simple leading features without much difficulty. Here appear the four great parallel valleys which form the chief physical characteristic of this portion of Anatolia—the valleys of the Kelkit Irmak, Yeshil Irmak, Kyzyl Irmak, and Euphrates. The latter valley begins much farther to the east than the others and does not continue so far to the west, but its east to west direction is maintained to 60–70 miles west of Erzinjan, and it belongs to the same valley group. Lying to the south of the district described here is the valley of the Murad Su, another great east to west depression.

Between or enclosing these more or less parallel valleys are continuous uplands or mountain masses which tend to spread outward as they pass from east to west. The most southerly ranges in this area are those of the Dersim, forming the southern side of the Euphrates valley. These are the wild, serrated, and barren ridges of Munzer Dagh and Aghnam Dagh, exceeding 11,000 ft. in height. They fill the great westward bend of the Euphrates, and that river on turning south sweeps round their western extremity.

The northern side of the Euphrates valley from Erzinjan westward is formed by a line of bare, irregular, more or less rounded mountain masses on which lies the watershed between the Euphrates and the Kyzyl Irmak. On their southern side they are furrowed by numerous small, deep-cut valleys running south to the Euphrates. As the watershed passes west from Erzinjan it is lifted at intervals into lofty blunt ridges such as the Kara Dagh, Deli Dagh, and Gurlenk Dagh, each of about 9,000 ft. elevation, and then the Terja Dagh of 8,000 ft., with open depressions of about 5,000 ft. elevation between the higher masses. Two of these depressions are crossed by chaussées connecting the valley of the Kyzyl Irmak with the valley of the Euphrates.

The watershed ranges bend to the south-west southward of Sivas, and as the Saz Dagh, Tunus Dagh, and Sary Chichek Dagh become bleak rolling upland of 5,000 to 6,500 ft. elevation, which on its north-west side falls steeply to the valley of the Kyzyl Irmak. Hereabouts the surface of the watershed plateau is broken by chains of naked volcanic hills, rising only a few hundred feet above their base elevation, and stratified in many colours.

Farther towards the south-west the watershed rises again to the Khanzyr Dagh of 9,500 ft., and the Gördeli Dagh of 11,000 ft. Both these masses may be regarded as belonging to the Antitaurus mountain system. Round about the Khanzyr Dagh and Gördeli Dagh is the central watershed of Asia Minor, a watershed of three seas—of the Persian Gulf, Mediterranean, and Black Sea—for here streams flowing to the Euphrates, to the Sihan and Jihan, and to the Kyzyl Irmak, have their rise.

The triangle of country enclosed between the watershed ridges in the north-west, of which the Khanzyr Dagh forms part, by the valley of the Euphrates in the east, from the Dersim mountains to Malatia, and the Terja Dagh in the north, is filled with high, bare, rolling upland whose rocks are largely of basaltic character. These uplands are traversed by numerous small stream-valleys, sometimes forming rocky gorges, all draining to the Euphrates. The south-west portion of this district is the well-known high plateau of the Uzun Yaila, bounded in the south by the wild broken country of the Antitaurus. (See p. 18).

Continuing towards the Black Sea from the northern watershed ranges of the Euphrates, the next great natural feature is the broad, open, east to west depression of the Kyzyl Irmak valley. This valley begins about 60 miles west of Erzinjan, on the southern side of the Kyzyl Dagh range, whose altitude is about 9,500 ft. Thereafter the valley opens rapidly, and becomes a wide and comparatively shallow depression running roughly east and west, at an elevation always exceeding 4,000 ft. till it has passed Sivas.

The valley is filled with easy undulations traversed by numerous lateral valleys. Westward of Sivas the valley contracts and turns to south-west, and continues thus till it expands to the plateau country north of Kaisari.

The northern watershed of the Kyzyl Irmak, separating that basin from the basins of the Kelkit Irmak and Yeshil Irmak, is carried westward from the Kyzyl Dagh by a succession of ranges separated by upland depressions and valleys. These mountains are the Köse Dagh, 9,500 ft., Habesh Dagh and Terfulla Dagh, 8,500 ft., and the Dumanly Dagh, 9,500 ft. They are generally of easy, rounded outline, and carry a good deal of scrub and forest, particularly the Kyzyl Dagh, Köse Dagh, and Habesh Dagh.

At Sivas the valley is contracted by the Melekum plateau which extends northward almost from the city to the Dumanly Dagh, as a broad bare expanse, about 1,000 ft. above the valley, covered with irregular rounded hillocks. Various outcrops of gypsum occur on this plateau.

Westward of Sivas the northern watershed of the basin divides. One branch, known as the Ak Dagh, throws forward south-westwards with the river parallel to it. This range is really detached from the general northern watershed heights by two large lateral valleys, but it clearly belongs to the same system. It is a bare rounded mass, of easy slope, which rises to two ridges, one of 8,000 ft., the other and more south-westerly, of 7,000 ft., with a long gentle saddle between. At its south-western end the lower ridge sinks gradually to the plateau country north of Kaisari. North of the Ak Dagh heights another line of bare rounded ridges called the Chamly Bel Dagh, 6,500 ft., continues westward and then merges into the comparatively low elevations and wide valleys of the plateau country. Ak Dagh and Chamly Bel Dagh separate the basins of the Kyzyl Irmak and Yeshil Irmak at this point. The chaussée from Samsun to Sivas enters the basin of the Kyzyl Irmak after crossing a depression (5,700 ft.), on Chamly Bel Dagh.

Having followed the basin of the Kyzyl Irmak westward

to the plateau country we will turn now to the basin of the Tozanly Su or Yeshil Irmak the next in order of the four great parallel valley depressions.

This valley is really the basin of an eastern tributary of the Yeshil Irmak sometimes regarded as the main stream, and accordingly given the general name. It will avoid confusion, however, if we confine the name Yeshil Irmak to the river formed by the junction of the eastern tributary, the Tozanly Su, with the south-western tributary, the Chekerek Irmak.

The head of the basin of the Tozanly Su lies south of Enderez, on the north side of the forested ranges of Köse Dagh and Habesh Dagh separating it from the basin of the Kyzyl Irmak. The valley continues westward, without any great windings till near Tokat, as a narrow depression with many lateral ravines from the lofty watershed of Terfulla Dagh and Dumanly Dagh in the south. Westward of Tokat the course of the valley becomes more devious, though it still has a general westerly direction. Immediately beyond this town the valley expands to the considerable plain of the Gaz Ova, and, a little farther down, to the plain of Turkhal. From this point to its junction with the Chekerek Irmak the river flows through a deep, narrow, rocky gorge, in forested country. The southern watershed along this lower stretch of river is formed first by the Ak Dagh of 6,200 ft., and then by the Evkere Dagh of about 5,500 ft. in height. The northern watershed, beyond the Kara Cham Dagh, is formed by a confused series of flat-topped ridges known as Bel Dagh, about 6,500 ft., which carries a good deal of pine-forest. The Tozanly Su and the Chekerek Irmak meet in an open valley basin between rounded mountains just above Amasia, the beginning of the gorge which the Yeshil Irmak follows through the coastal mountains.

The next great valley depression northward of the Tozanly Su is that of the Kelkit Irmak. As has been remarked before this is part of the great continuous depression which, beginning with the valley of the Chorukh in the east, follows

the southern side of the coastal ranges for their whole length with only a few partial interruptions.

The basin of the Kelkit Irmak begins in the open uplands west of Baiburt and south of the Vavuk col, where the watersheds of the Chorukh, Karshut Chai, and Kelkit Irmak meet. The southern watershed hereabouts is formed by that east to west line of heights, Ak Dagh and Chimen Dagh both of about 9,500 ft., on which lies the northern watershed of the Euphrates, and which also enclose the plain of Erzinjan on its northern side. The upper part of the Kelkit basin, lying around Kelkit Chiftlik, is characterized by wide rolling uplands. Soon after leaving this open country the immediate valley narrows and becomes a deep gorge; the southern watershed continues westward as the broad lofty upland of Dish Tash Dagh above Gerjanis, and then rises to the Kyzyl Dagh of 9,500 ft. Between the Dish Tash Dagh and the Kyzyl Dagh the basin of the Kelkit Irmak is at its widest; on each side of the rugged wooded hills through which the channel of the river passes are the plains of Ak Shehir and Sushehir, forming on the south a continuous open basin from the Chardakly Bel, west of the Erzinjan plain, to Enderez. North of the river is another belt of open country formed by the Sheiran and Alujera plains which make a stretch of rolling country from Baiburt to Shabin Kara Hissar.

Westward of Shabin Kara Hissar the basin of the Kelkit Irmak contracts and forms a deep and comparatively narrow trough with wooded slopes, particularly on the south side. Hereabouts the southern watershed is formed by the forested Köse Dagh, presently continued by the long, pine-covered hog's-back of Kara Cham Dagh, and this next merges into the Bel Dagh, also pine-covered. These three ranges have already been mentioned as forming the northern watershed of the Tozanly Su.

Near Niksar the valley of the Kelkit opens to a wide marshy plain; it contracts again; but only to expand to another plain, the Tash Ova, lying around Herek. At the western end of the Tash Ova the Kelkit Irmak falls into the Yeshil Irmak.

For the whole length of the Kelkit Irmak the northern watershed is formed by the coastal range. It bears various names; the Giaur Dagh, 9,500 ft., above Sheiran; and the Kazan Kaya Dagh, 9,750 ft., above Shabin Kara Hissar. Hence westward the range diminishes in elevation. Beyond the Kazan Kaya Dagh it becomes the Kalyn Kaya Dagh, of about 6,500 ft., which sinks to the Kozhusni Dagh, of 5,000 ft.; and that is continued as the Kara Kush Dagh, of about the same height, to the gorge of the Yeshil Irmak.

Grassy summer grazing grounds occupy much of these bare mountain ridges. Eastward of Shabin Kara Hissar the southern slopes of the coastal range are generally devoid of forest or scrub; but westward of that town both appear, usually confined to the lower parts of the slopes.

The depression forming the basin of the Chekerek Irmak, the south-western tributary of the Yeshil Irmak, lies to some extent on the large pocket of plateau country which projects northward from Yozgad to Chorum. The boundary beween what we call the intermediate Pontic zone and the true plateau country, in this part of Anatolia, follows roughly the valley of the main stream of the Chekerek Irmak.

North of the Chamly Bel Dagh a somewhat confused series of comparatively low ridges continue westward with a general tendency to curve to the south-west. Including the Ak Dagh and Chamly Bel Dagh already mentioned they may be regarded as the breaking up of the Dumanly Dagh and Bel Dagh into radiating offshoots pushed on to the plateau or round its northern edge. It is in the west and south of this district that the basin of the Chekerek lies, with its eastern watershed dividing it from the Tozanly basin, and its southern, western, and north-western watersheds dividing it from the Kyzyl Irmak basin.

The head of the Chekerek basin is formed by wide, open valleys upon the flanks of Ak Dagh and Chamly Bel Dagh, between these ranges, and upon their western extremities where they sink to the plateau some 60 miles west of Sivas. To the north of the Chamly Bel Dagh, which is a bold rounded

line of heights, a subsidiary range, the Deveji Dagh, 6,500 ft.—more or less linked with the great mass of Dumanly Dagh in the east—is flung westward to the plateau country, into which, as the Emir Dagh, it eventually sinks. Between the Chamly Bel Dagh and the Deveji Dagh is the large open plain of the Art Ova, or Artyk Ova, belonging to the basin of the Chekerek, and united to it westward by the wide easy valley of the Chekerek Su.

As far west as Yanghyn the basin of the Chekerek falls towards the west as a broad open depression, but it now contracts and turns northward, and, as a narrow valley which is sometimes a gorge, makes a westerly loop round the western end of the Alan Dagh and Evkere Dagh—both about 5,000 ft., somewhat broken, and carrying scrub and a little forest. The valley, still narrow and deep, now passes north-eastwards, between the Alan Dagh on the south-east and the rolling, scrub-covered, plateau uplands of Kara Dagh on the west, to the valley of the Yeshil Irmak. Before joining this main depression, however, the basin of the Chekerek is expanded widely to the west and south-west by the basin of the Chorum Su, a tributary stream. The Chorum Su depression lies mainly upon the plateau proper, but it also includes the southern slopes of high, sometimes scrub-covered, uplands extending from the Yeshil Irmak to Chorum, where they rise to the Karchuk Dagh, of about 5,000 ft.

After the valleys of the Tozanly and Chekerek have united between high, bare, rounded mountains, a few miles south of Amasia, the valley continues northward as the gorge of the Yeshil Irmak, a narrow depression between precipitous sides 1,000–3,000 ft. in height.

A little way below Amasia the basin of the Yeshil Irmak receives a wide north-eastern extension by the basin of another tributary, the Tersakan Su. This basin includes the northern slopes of Ak Dagh, 6,850 ft., on the north, the south-western slopes of Tavshan Dagh, 5,800 ft., on the north-west, both with a good deal of scrub and forest, and also the large plain known as the Sulu Ova. This plain is

united to the valley of the Yeshil Irmak by a deep gorge with rocky precipitous sides.

Below Amasia the valley of the Yeshil Irmak continues as a deep, winding, precipitous gorge, cleft through the coastal ranges, with scrub upon the cliffs, and forest in some of the higher valleys. On the north-west, Ak Dagh rises to 6,800 ft. and the pine-covered ridges of Bel Dagh to 6,300 ft. on the south-east. The gorge continues till the valley of the Kelkit Irmak joins from the east through the plain known as the Tash Ova. The valley of the Yeshil Irmak thence goes north, still as a gorge, but between lower ridges of the coastal range, here the Mason Dagh of 3,300 ft. on the east and the Tashmak Dagh of about the same height on the west. Hereabouts the mountains and hills carry much forest and scrub. A short distance above Charshembe the valley merges into the deltaic plain formed by the Yeshil Irmak and the Terme Su.

Passing westward from the valley of the Yeshil Irmak we next come to the portion of the intermediate coastal zone lying between the Yeshil Irmak and the Kyzyl Irmak and extending southward to Chorum and the Kartal Dagh as the southern limits of the zone.

In this district the coastal mountains are, on the whole, at their lowest. The system comprises a somewhat irregular mass of ridges and depressions more or less parallel to the coast. These heights do not exceed 4,000 ft. except Nebien Dagh south of Bafra, and the comparatively detached range of Ak Dagh, 6,850 ft., which is thrown southward from the coastal range like a bastion, and rises steeply from the gorge of the Yeshil Irmak on the south-east, and from the Sulu Ova, or plain of Merzifun, on the south-west. The upper portion of the Ak Dagh ridge is rocky and bare, and cut by many ravines; but the coastal ranges between the Yeshil Irmak and the Kyzyl Irmak are generally rounded in outline, and of easy slopes. Scrub and pine forest cover large areas of these mountains. On Ak Dagh is a good deal of oak forest.

The system of depressions which has been described as existing almost without break south of the coastal range,

from the Russian frontier to the west of the peninsula, may be recognized in this district in the Sulu Ova, and the plain or depression in which Vezir Köprü stands.

Here it should be noted that south of Samsun a succession of cols with easy gradients allows the coastal ranges to be crossed at altitudes nowhere exceeding 3,000 ft. And that, in addition, three gorges—the Sheitan Boghaz, between the plains of Vezir Köprü and Merzifun ; the Tersakan gorge, between the Sulu Ova and the gorge of the Yeshil Irmak ; and then the upper part of the latter gorge, all lie in line with the low cols of the coastal mountains, and provide a natural way from Samsun to the easy valley of the Tozanly Su, and thus into the interior. This is the route followed by the Samsun-Baghdad chaussée.

North-west from Ak Dagh a low ridge, cut by the Sheitan gorge, connects Ak Dagh with Tavshan Dagh. This range then passes westwards across the northern loop of the Kyzyl Irmak, and terminates in the acute angle formed by the river at Haji Hamza. These mountains, also, have the bold rounded form, intersected by small canyons, so common in Asia Minor. The northern slopes are forested with pine ; on the southern slopes is a good deal of scrub.

The plain, or undulating depression of Vezir Köprü, extends westward from Ak Dagh, passes round the eastern end of Tavshan Dagh, and reaches the Kyzyl Irmak in the north-west. The western portion of the plain belongs to the Kyzyl Irmak basin ; the eastern portion to the basin of the Yeshil Irmak. On the north-east the plain goes up to the coastal mountains, whose slopes begin a short distance out of the town of Vezir Köprü. Some miles to the west of the town a rough, broken range, covered with pine and scrub, the Kunduz Dagh, of about 3,500 ft., rises from the plain and fills the extremity of the northern loop of the Kyzyl Irmak.

South of Tavshan Dagh and the low bare ridges connecting it to the Ak Dagh, the Sulu Ova or plain of Merzifun runs south-eastwards to the Yeshil Irmak, and is enclosed on its

southern side by the ridge of high, open uplands, sometimes scrub-covered, extending westwards from that river to the Karchuk Dagh, 5,500 ft., which stands north of Chorum. This range then goes westward to the Kyzyl Irmak near Osmanjyk, where, on the east bank of the river, it encloses the small plain of Osmanjyk. Scrub and occasional pine forest appear on Karchuk Dagh. South of Karchuk Dagh the country sinks to the plain of Chorum, which belongs to the plateau country.

From the Karchuk Dagh onwards the immediate valley of the Kyzyl Irmak is deep and narrow, and often precipitous and rocky. Midway between Osmanjyk and Haji Hamza it contracts to a rocky gorge ; and to yet another when nearing Kamyl. For 10 miles above Duraghan the valley is a gorge between vertical walls of rock, 2,000 ft. high, where not even a footpath is possible. Between Duraghan and Cheltek, a similar but shorter gorge occurs. Below Cheltek the valley becomes a tremendous, narrow, winding defile through the coastal ranges, with cliffs sometimes exceeding 1,000 ft., or precipitous rocky slopes, covered with pine and scrub, rising to the Chakalan Dagh and Nebien Dagh of 4,200 ft., in the east, and Dutmen Dagh, 5,300 ft., in the west. This gorge is passable by a mule track. Fifteen miles south of Bafra the gorge becomes an open valley between high, bare, rolling hills ; and at Bafra the valley merges into the deltaic plain of the river.

(3) West of the Kyzyl Irmak the coastal ranges, broken, difficult, and covered with pine and forest, continue north-eastward as the Dutmen Dagh, 5,300 ft. ; Souk Dagh, 4,500 ft. ; and Ak Kaya Dagh, of about the same height. These form the northern watershed of the Gök Irmak basin, a western tributary of the Kyzyl Irmak. By this basin the great depression southward of the coastal ranges is carried westward to Kastamuni. Beyond the Ak Kaya Dagh, south-west of Sinope, the coastal ranges, following the direction of the coast line, begin to trend away towards the south-west.

The intermediate Pontic zone rapidly increases in width immediately west of the Kyzyl Irmak valley. From Osmanjyk the south-eastern boundary follows the mountains lying along the west bank of the Kyzyl Irmak valley as far as the Chybuk Ova and Murtad Ova; and thence along the lower valley of the Engüri Su to the Sakaria. Here the southern boundary goes westward up the valley of the Porsuk Chai till the valley of the Kara Su is reached. From this point a somewhat arbitrary western boundary has been adopted; it follows the valley of the Kara Su northward to the Sakaria, then the Sakaria northward to the Sabanja Lake. The boundary then turns westward to the head of the Gulf of Izmid, and thus includes the district between the gulf, the Bosporus, and the Black Sea. The mountains to the west of this line are described on pp. 47 ff.

The great area just outlined includes much of the western portion of the basin of the Kyzyl Irmak, the whole basin of the Ulu Chai, and the northern portion of the basin of the Sakaria.

Certain large physical characteristics may be noted in this area. The general level of the country declines from the south and south-east towards the north-west and west. The coastal ranges continue westward, generally with a depression along the southern side, but they decrease in elevation; and, following the coast-line, trend away towards the south-west. In the south of the area we find a recurrence of the parallel east to west valleys and ridges which were noted as characterizing the country to the east of Sivas. In this western part of the peninsula these features appear as the valleys of the Porsuk Chai and the lower Sakaria. But between the southern boundaries of the district and the coastal mountains of the north the general direction of main ridges and depressions is from north-east to south-west.

Between the Kyzyl Irmak and the lower Sakaria the whole region may be described as mountainous, intersected by large open valleys and several undulating basins.

Forest and scrub appear over the whole of the region now

being described; but north of a general line drawn along the lower Kyzyl Irmak, up the valley of the Devrez Chai, and thence westward to Sabanja Lake is the chief forest region of Asia Minor. Here are found not only pine, but oak, beech, and chestnut of great size and in great abundance.

The chief physical features of this north-western portion of Anatolia may now be described in more detail, beginning with the basin of the Gök Irmak, south-west of Sinope, and thence proceeding westward.

Where the basin of the Gök Irmak unites with the valley of the Kyzyl Irmak the former is comparatively contracted between the broken, forested Souk Dagh in the north and the end of the long pine-covered ridges forming the western side of the valley of the Kyzyl Irmak. At Boyabad the basin is more open, but the immediate valley of the river, and that of a tributary, the Kara Su, which joins there, are deep and narrow and, in places, precipitous. The coastal ranges form the whole northern watershed of this basin. They do not much exceed 5,000 ft. in greatest elevation; but are steep on the southern side, cut by numerous gorges and small lateral valleys, and carry much forest on their upper slopes. The chaussées between Boyabad and Sinope, and between Kastamuni and Ineboli, have to ascend to more than 4,000 ft. in order to cross the ranges, and gradients are sometimes severe.

Westward of Boyabad the basin continues to expand, and on its southern side are broad, forested uplands, which rise to its southern watershed on the Sarykavak Taksan Dagh, of about 5,000 ft. This range sinks as it goes south-west to unite with the much greater, forest-covered mass of Ilkas Dagh. North-west of Tosia the latter range rises to about 7,700 ft., and then falls to a col, of 5,700 ft., by which the Ineboli–Kastamuni–Tosia chaussée crosses it. Hereabouts the Ilkas Dagh forms the watershed between the basins of the Kyzyl Irmak in the south, the Gök Irmak in the north-east and the Ulu Chai in the north. Between the highlands of Ilkas Dagh in the south and the coastal ranges in the north

is the broad, comparatively low depression in which Kastamuni stands. This basin is cut by many lateral valleys in which are the head-waters of the Gök Irmak.

South-east of the general ridge formed by the Ilkas Dagh and its subordinates is the long, deep basin of the Devrez Chai, a tributary of the Kyzyl Irmak. The country lying between the Devrez basin and the valley of the Kyzyl Irmak in the south-east is filled by a mass of mountains and uplands forming a general ridge running from north-east to south-west. Within the loop here formed by the Kyzyl Irmak these mountains are the Kush Dagh, 6,700 ft., and south of that the Elmaly Dagh, 8,000 ft. Both are cut by deep valleys and ravines descending to the Devrez Chai on the one hand and to the Kyzyl Irmak on the other. The north-eastern portions of these mountains carry some pine forest, and upon their upper ridges are summer grazing-grounds.

As these highlands pass to the south-west they are divided in turn by the valleys of the Changhry Chai and Tunus Chai, both tributaries of the Kyzyl Irmak, and then by the Chybuk Chai valley belonging to the basin of the Sakaria. Just east of Changhry the Elmaly Dagh sinks to high bare rolling uplands, which continue south-west to Angora and the large plain called the Chybuk Ova. In the area between Angora, Changhry, and the Elmaly Dagh are extensive deposits of salt. The south-west watershed of the Devrez Chai lies on the high bare uplands north of the Chybuk Ova, and thence goes north-west to Bayndyr Dagh, 5,000 ft., which is also of a rolling upland character.

The basin of the Ulu Chai, which lies westward of Kastamuni, is one of the smallest basins of those Anatolian rivers which rise south of the coastal ranges. Between Kastamuni and the lower valley of the Ulu Chai or Filiyas Chai the coastal ranges are known as the Kurnak Dagh and Alfas Dagh of about 4,200 ft., and the Demir Oluk Dagh of over 5,000 ft. These are broken, heavily wooded ranges intersected by many small valleys and gorges.

The valley of the Arach Chai, an eastern tributary of the

Ulu Chai, forms part of the great depression in which Kastamuni stands, and has Ilkas Dagh as its south-eastern watershed. A broad spur from this range is thrown westward into the depression and divides the valley of the Arach Chai from that of the Ulu Chai. The whole basin of the Ulu Chai is very broken and intricate, and the main valley, which descends westwards from the Ilkas Dagh, turns at the foot of that range, and comes down from north-west by west. Continuations of the Ilkas Dagh in a south-western direction carry the watershed ridge of the Ulu Chai to the Bayndyr uplands. These presently rise to the general range of Ala Dagh, 7,600 ft., forming the watershed here between the basins of the Ulu Chai and the Sakaria.

The western basin of the Ulu Chai is even more broken and intricate. It consists of numerous deep narrow valleys cut in the Semen Dagh, 6,500 ft., and the Dagruja Dagh, 4,000 ft. This part of the basin is drained by the Boli Su, a south-western tributary of the Ulu Chai, flowing in a deep narrow valley. The lower basin of the Ulu Chai passes through the coast ranges as a deep narrow valley. The basin of the Ulu Chai as a whole carries much scrub and forest.

The description now comes to the great basin of the Sakaria, in its north-eastern portion. The watershed of the basin on this side coincides with the western watershed of the Kyzyl Irmak north of Angora, and thence westward with the watershed of the Ulu Chai basin. In this district north of the main valley of the Sakaria there is no strongly marked and dominant watershed range. What may be called the general chain of the Ala Dagh, forming an east to west stretch of high land reaching at one point an altitude of nearly 7,500 ft., lies along the north side of the basin. From it a number of subordinate ridges are thrown south-west and south to the main east and west valley of the Sakaria.

In the Semen Dagh, south of the Boli basin, the coastal range and the ranges of the interior may be regarded as uniting, and thence westward form a single system of ranges

which culminate in the mass of Karduz Dagh, of nearly 6,000 ft., east of Sabanja Lake. On this northern side of the Sakaria basin are no large basins of tributary streams, but a great number of comparatively short and narrow valleys coming down from high upland or mountain country. In the north-eastern part of the basin there is a good deal of forest and scrub. The areas so covered diminish as the main valley of the Sakaria is reached, but scrub and forest still appear in various places.

The southern boundary of the portion of the Sakaria basin included in this description is first the north-west to south-east valley of the Sary Su to Eskishehir and then the west to east valley of the Porsuk Su to its junction with the valley of the Sakaria. The Anatolian Railway follows the valley of the Sary Su to the Porsuk valley.

The valley of the Sary Su comes down from the north-west as a wide shallow depression, sometimes expanding to narrow marshy plains, through bare uplands which have to the north the broad ridge of Boz Dagh, 5,200 ft., on which are some forest and scrub. At Eskishehir the valley joins that of the Porsuk Su, which continues eastward for some 90 miles as a depression of no great depth between bare open uplands. The north side of this valley is formed by the ridges in continuation of Boz Dagh which fill the area between the two parallel valleys of the Porsuk and the Sakaria. These broad, level ridges, broken by gentle saddles, are known as the Jümdiken Dagh and the Muhalych Dagh, both exceeding 5,000 ft., and show small areas of scrub and wood. For its whole length from Eskishehir to the Sakaria the valley of the Porsuk is followed by the Anatolian Railway, leading to Angora.

From the junction of the Porsuk valley the valley of the Sakaria goes north-east for some fifty miles, as a somewhat deep, narrow, exceedingly winding depression in bare country between the Muhalych Dagh in the west and Germush Dagh in the east. On this stretch of the Sakaria valley the basin is extended to the east by the valley of the Engüri Su, which

comes from Angora, through bare open uplands, after draining the large plains of the Chybuk Ova and the Murtad Ova. The southern, eastern, and northern watersheds of this basin coincide with watersheds of the Kyzyl Irmak basin lying round Angora.

Some distance below the valley of the Engüri Su the valley of the Sakaria turns to the west and continues thus for some 120 miles. In this distance the general valley is open, the immediate valley sometimes narrow and deep. On the north are hills and uplands rising to the Yaprakly Dagh of about 4,000 ft., and cut by numerous lateral ravines and valleys. A good deal of forest and scrub grows on these heights. The northern watershed goes as far north as the Ala Dagh and Semen Dagh, a heavily wooded country, in which are the watersheds of the Ulu Chai and Boli Su. The southern side of the valley is formed by the long ridge of Boz Dagh and its eastward extension, on this side carrying more forest and scrub than where they look southward over the valley of the Porsuk.

When abreast of Boz Dagh the valley of the Sakaria narrows and swings gradually to the north-west under the steep slopes of Göl Dagh on the north. A little lower down, the lateral valley of the Kara Su descends from the south in a succession of gorges and minor plains through comparatively open country. At this point the Anatolian Railway, coming up the lower valley of the Sakaria, enters the valley of the Kara Su.

Below the junction of the Kara Su valley the valley of the Sakaria has a winding course, with a general direction north-north-east, to the Black Sea. The valley hereabouts is open and fairly wide and rises to high rolling country on either side.

Near Lefke the basin of the Sakaria is extended to the west and south-west by the basin of a large tributary, the Gökche Su. Below the Gökche Su the valley of the Sakaria sometimes narrows to rocky gorges, in other places it expands to marshy plains. In this stretch it passes between the Ak Safu Dagh in the east and the Gök Dagh in the west, both

exceeding 5,000 ft., and both within a few miles of the river's channel. Hereabouts is a good deal of wood and scrub. Having passed this gap the valley opens to the wide plain of the Ak Ova or Ada Bazar, which extends on the west round the Lake of Sabanja. The eastern watershed of the Sakaria valley hereabouts lies on the wooded ranges of Kurmaly Dagh, 4,500 ft., Karduz Dagh, nearly 6,000 ft., and Yildiz Dagh, 2,000 ft. From the plain of Ada Bazar to the sea the valley is wide, flanked by low hills covered with scrub. The valley in this distance sometimes widens and forms marshy plains, which also extend along the coast on either side of the river's mouth.

The peninsula enclosed by the Gulf of Izmid in the south, the Bosporus in the west, and the Black Sea in the north, forms a general east to west ridge with its greatest height along the Gulf of Izmid. It is broken and irregular, but everywhere on a small scale. A few of the heights attain 2,000 ft., the greater number do not exceed 1,000 ft. This east to west mass of high land sloping generally to the north is intersected by numerous valleys running to the Black Sea ; the southern slopes are more abrupt and cut by small ravines or glens. Westward of Gebze the southern coast is lower and runs inland in easy slopes. The whole block of country in short is a tangle of low heights and small irregular valleys, on which there is much scrub, and, in places, some forest.

(4) We shall now describe briefly the chief rivers of northern Anatolia ; and, in passing, note the areas of cultivation and settlement in their basins.

The greater part of the Anatolian peninsula is drained by six rivers which flow to the Black Sea, and therefore break through the northern barrier of coastal ranges. The basins of these rivers spread over the interior, but contract to long narrow bottle-necks before emerging on the coast.

These rivers drain areas on which much of the annual precipitation is in the form of winter snow, lying for many weeks ; they, therefore, have a period of spring flood in which they carry an enormous volume of water ; for the rest of the

year they are low, unless temporarily swollen by rain. Another peculiarity is that they rise at altitudes of from 5,000 to 6,000 ft., and flow for the greater part of their length through country from 1,500 to 4,500 ft. above the sea ; their fall, in consequence, is always rapid, and in the last 50 or 60 miles of their course, where they pass through the coastal mountains, they all, with the exception of the Sakaria, descend many hundreds of feet and thus are unnavigable. And further, owing to the numerous mountain ranges they encounter, their general course is often erratic, their local course devious, and they pass through many rocky gorges. These various characteristics prevent inland communication by water.

Chorukh (anc. *Boas*)

From its mouth, some 5 miles south-west of Batum, to its source on the uplands of Chatuk Dagh, 35 miles north of Erzerum, the Chorukh has a course of some 275 miles. The river enters the sea through a swampy plain cultivated with rice. The lower course of the Chorukh is through a wild forested gorge in Russian territory. The upper valley of the river, from the Russian frontier westward, is a deep trough with scrub and forest, and sometimes rice, in the bottom. The southern side of this long valley has a good deal of settlement and population ; but the northern side little. Near Baiburt the valley opens to broad corn-growing uplands and scattered villages.

Euphrates (Tk. *Frat*)

We are concerned here only with that part of the Euphrates valley which lies between the plain of Erzinjan and Malatia.

The plain of Erzinjan is fertile and well watered, and produces much fruit and vegetables. Many villages lie around the town. Hence to the neighbourhood of Malatia the valley is deep, rocky, and generally sterile, and sometimes contracts to gorges of profound depth. Narrow strips of cultivation occur at intervals along the river and in some of the lateral ravines and valleys, especially to the north of the river. To the west

of the river is a wide upland country, with a good deal of cultivation and many scattered villages.

The district around Malatia has a large population.

Karshut

The Karshut is the smallest river of the six which flow to the Black Sea through the coastal mountains. Its basin is broken, mountainous, and forest-covered, except at the southern part where there are broad uplands and some cultivation and villages. The lower valley is unfertile.

Yeshil Irmak (anc. *Iris*)

The next river-basin towards the west is that of the Kelkit Irmak, a large tributary of the Yeshil Irmak. The river has a course of some 200 miles. The upper part of its basin, from the open country west of Baiburt to Shabin Kara Hissar, contains much upland and plain marked by a great deal of cultivation and many villages. From Shabin Kara Hissar westward to the Yeshil Irmak the valley is narrow and deep; there is a good deal of forest, and little cultivation except in the fertile plains of Niksar and the Tash Ova to which the valley expands, and in which much rice is grown.

The Tozanly Su, regarded as the main stream of the Yeshil Irmak, comes next. From its source north of Zara to the sea it has a length of about 270 miles. The upper part of its basin contains much open cultivated country and a considerable population. Around the large town of Tokat is much fertile land and a large number of villages. Lower down, the valley expands to the plains of the Gaz Ova, Turkhal, and Zile, all of them rich districts with much settlement. The Tozanly Su and a large tributary, the Chekerek Irmak, unite in a broad valley containing much cultivation and numerous villages.

The Chekerek has a course of some 200 miles, and drains an area of great extent. The upper part of the basin includes the fertile country of the Artyk Ova, and much valuable corn-growing upland lying between Sivas, Yozgad, and Sungurlu,

on which villages are numerous. The lower part of the basin, also, is fertile and populous, and includes an exceedingly rich and well-cultivated strip along the bottom of the narrow valley of the Chekerek. The basin of the Chorum Su, a western tributary of the Chekerek, is another large, fertile, and populous region, particularly around the considerable town of Chorum.

Below the junction of the Chekerek the Yeshil Irmak passes down a valley filled for 10 miles with the richest cultivation in Asia Minor. This is the Amasia gorge, in which stands the large town of that name. The whole district has much fertile land and carries a large population.

The basin of the Tersakan Su, a tributary which joins from the west near Amasia, is another fertile and populous area. It includes the large corn-growing plain of the Sulu Ova, or Merzifun, and the country round Khavsa.

The lower valley of the Yeshil Irmak is rocky, and has little cultivable land and few villages until the rich deltaic plain is reached.

Kyzyl Irmak (anc. *Halys*)

The Kyzyl Irmak, the longest river in Asia Minor, is the next as we pass westward. It has a course of about 750 miles, and receives several large tributaries. The basin contains a great area of cultivable land, and, as a whole, forms a most important region of settlement.

Almost from its beginning, between Sivas and Erzinjan, the river valley is wide and open, flanked by rolling, fertile uplands and is a valuable corn-growing country with many villages. The whole district lying round about Sivas is, in fact, one of the most important in Asia Minor both for cultivation and for settlement.

The valley of the river between Kaisari and Angora is of less value. It suffers from want of water and population is sparse.

Below Angora another large tributary, the Delije Irmak, joins from the south after a course of some 200 miles, and

drains a wide country to the south and south-east, lying chiefly on the dry plateau. It has, however, a good deal of cultivable land and many scattered villages in addition to several large towns.

From the Delije Irmak downwards the rich areas of the Kyzyl Irmak basin are found chiefly in the basins of its tributaries, the Devrez Chai, Zeitun Chai, and Gök Irmak.

The hundred-mile long valley of the Devrez Chai is noted for its rich cultivation and its rice fields, especially in the neighbourhood of Tosia. It carries a large population.

The valley of the Zeitun Chai, which joins the Kyzyl Irmak at Kamyl, is small but has the same rich and populous character.

The basin of the Gök Irmak, the great western tributary of the Kyzyl Irmak, contains a large area of some of the most fertile land in Anatolia. It includes the wide cultivated depression in which stands the important town of Kastamuni. Around Boyabad is one of the most valuable rice-growing districts in the country. The whole basin carries a large population.

Below the mouth of the Gök Irmak, on the eastern bank of the Kyzyl Irmak, is the rich and extensive district of Vezir Köprü, with hundreds of closely-set villages lying round the town of that name.

The gorge by which the Kyzyl Irmak reaches the sea has no cultivable land and only a scanty population. Below the gorge is the large, rich, alluvial plain of Bafra, with much cultivation and a large population in and around the town.

Filiyas Chai (anc. *Billaeus*)

The next basin westward is that of the Filiyas Chai, or Ulu Chai, one of the smallest of the six rivers which reach the Black Sea from the interior. This river is unimportant; but the basin is of considerable size, and contains much cultivation and many villages. In it also are the two considerable towns of Zafranboli and Boli.

Sakaria (anc. *Sangarius*)

Next comes the Sakaria, a river in its length second only to the Kyzyl Irmak, and in the area and importance of its basin rivalling or surpassing the longer river. The Sakaria has a length of about 550 miles, and its basin extends from beyond Angora in the east almost to Brussa in the west, and from the Black Sea southward to Afium Kara Hissar.

The Sakaria rises in springs near Chifteler, and carries a large volume of water from its source. Its upper reach is marshy, and has little cultivation or settlement.

The basin of the Porsuk Chai, the chief southern tributary of the Sakaria, is of a somewhat similar character ; but in it are a fair number of villages and the large town of Eskishehir.

Below the junction of the Porsuk Chai with the Sakaria, the Engüri Su joins from the east. The upper basin of this stream, which extends beyond Angora almost to the Kyzyl Irmak, includes the Angora district and large plains of the Murtad Ova and Chybuk Ova, with much fertile land and a large population. The lower basin is barren.

Between the Sakaria and the Porsuk, where they flow parallel to each other, cultivation and settlement are confined to widely scattered villages. But north of the Sakaria, on the same west-to-east stretch, a wide area extends to the basin of the Ulu Chäi and contains many villages standing on cultivated areas.

The lower basin of the river, from Lefke to the Black Sea, is a rich and thickly populated region. Here are wide areas of level land, such as the Ak Ova or plain of Ada Bazar, with the large town of that name.

Owing to its favourable climatic conditions and great diversity of elevation this intermediate coastal zone produces a large variety of crops. Its grains include rice and maize and wheat and oats. Tobacco flourishes in many districts, even cotton in some ; and in others are moist grassy uplands used as summer grazing-grounds. Figs and olives appear in certain favoured valleys ; the vine grows almost everywhere ;

and apples, pears, plums, apricots, and other fruits are plentiful.

The population of this intermediate zone is not only predominantly Turkish but may be called almost exclusively Turkish. It is also a sound generalization that here, in a broad belt between the headwaters of the Kyzyl Irmak and the valley of the Sakaria, is planted the finest Moslem peasantry in Anatolia. From this peasantry of the intermediate zone are drawn the best troops of the Turkish army.

The Central Plateau

In this section a survey is given of the plateaus and plains, interspersed with mountain ridges or isolated peaks, which extend from Murad Dagh on the west to the upper basin of the Kyzyl Irmak on the east, and from the Taurus range on the south to the southern rampart of the Pontic mountain-rim on the north. This area falls into three well-marked divisions, quite distinct in character: (1) The West-Central Mountains, (2) The Lycaonian Steppe, or Central Depression, (3) The Cappadocian and Galatian Uplands.

(1) *The West-Central Mountains.*—It is evident, from what has been already said, that the mountain-rim separating the western lands of the Anatolian peninsula and the interior plateau does not consist of a continuous ridge but rather of a number of ridges and ranges. From north to south the most important of these are Keshish Dagh (Mt. Olympus), Dumanich Dagh, Egrigöz Dagh, Ak Dagh (east of Gediz), Murad Dagh, Ahar Dagh, Burgaz Dagh, Ishikli Dagh, Ak Dagh, Porsama Dagh, and Aidoghmush Dagh. Of these the last five groups form a fairly continuous range. The others are more or less isolated and between them the plateau extends outwards in tongues or bays.

A glance at the map shows that it is on the north-west that the plateau extends farthest westwards. If we take the Anatolian railway as the dividing line between this projecting part of the plateau and the country to east, the area in question

may conveniently be dealt with in two parts, north and south respectively of the latitude of Kutahia.

North of Kutahia the average elevation is about 3,600 or 4,000 ft. Below this level lie a number of plains, some of considerable size. Among these may be mentioned the plains of Tavshanly (alt. 2,600–2,800 ft.), those of Ören Köi and neighbourhood (about 3,350 ft.), that of Kutahia (alt. 3,000 ft.,) the plain south of Tutluja (alt. 3,000 ft.), and that of Dumanich (alt. 2,600 ft.). All these plains are but little sunk below the level of the surrounding plateau, not more than 1,000 ft. at most. South of the latitude of Kutahia the area consists of strips of rolling plateau and valley plains dominated by hill or mountain groups which as a rule have rounded outlines. The most extensive plain is the Altyntash Ova which runs from south-east to north-west for a distance of over 35 miles with a maximum breadth of 6 miles. The level varies from 3,600 to 3,350 ft. On the north-west a broad flat corridor connects it with another fairly extensive plain, that of Geregi.

The country just outlined is furrowed by a considerable number of valleys belonging to two separate systems—those of the Tavshanly Chai and Porsuk Chai respectively. Both of the main streams within this region flow with slow current in shallow beds. Their tributaries carry little water, though few of them are actually dry in summer, and the valleys are not deep. Generally, however, the valley sides are steep. The watersheds are almost imperceptible. Where the rock-formation is serpentine the steep-sided, canyon valley gives place to the V-shaped valley and the watersheds are formed by rounded ridges of approximately uniform elevation.

A line drawn southwards from Murad Dagh to the series of ridges—Ak Dagh, Jebel Sultan and Samsun Dagh—which rise above the plains of Chivril and Dineir, represents roughly the rim of the plateau in this region. This line crosses the Smyrna–Kassaba railway near Tolumpunar, where lies the watershed between the central depression and the west coast. Farther south, the line is crossed by the upper feeders of the Maeander which drain the fertile plain of Sandykly, and part

company with the affluents of the Akar Chai, flowing towards the central depression, on the summit of the ridge which runs south-west from Afium Kara Hissar. A ridge connects the Samsun Dagh with the lofty Borlu Dagh (over 7,500 ft.), an outlier of the Taurus system, to which it is joined by a high saddle west of Egerdir. On the south, Borlu Dagh overlooks the valley of Isbarta ; on the north it faces, across a corridor carrying the road from Dineir to Yalovach, the ridge running south-west from Sultan Dagh referred to below.

East of the railway from Eskishehir to Afium Kara Hissar, and of the road from Afium Kara Hissar to Dineir, the Phrygian mountain region is bounded on the north by a line drawn through Eskishehir and Chifteler, and on the south by the corridor stretching from Soghla Lake to Dineir, and separating the Taurus range from the Sultan Dagh and its south-eastern and south-western extensions. The principal heights in this region are the unexplored Türkmen Dagh, south of Eskishehir, which is thought to rise to 6,500 ft., and the Sultan Dagh, which rises to 8,000 ft. south of Chai, and has a mean elevation of between 6,000 and 7,000 ft. An arc drawn from the Türkmen Dagh south-eastwards, roughly parallel to the line of the railway, coincides with a more or less continuous ridge, which forms the watershed between the Sakaria, with its tributaries the Seidi Su and the Bayat Chai, and the Akar Chai, which runs into the interior depression, and whose valley is a sort of gateway to the plains of the interior. North and north-east of Bolavadyn this ridge is rounded off by the Emir Dagh, which forms the northern wall of the valley of Phrygia Paroreios, and which is succeeded in its turn by a series of lower ridges running south-eastwards to the neighbourhood of Ilghin. On the south side these ridges generally fall steeply to the plain ; on the north side their outliers slope gradually down to the Porsuk and Sakaria valleys. On this side the chief spurs are those north-east of Seidi Ghazi and south of Chifteler. East of Piribeyli lies a quadrangular group of ridges which are separated from the main system by low passes and valleys to the west and south. South of this group the level plain

penetrates deeply into the hills, forming two bays called Eshme Ova and Durgut Ova.

The soil of the river valleys is fertile, and there is a fair amount of cultivation where water is available. In the central part of this region, around Kümbet, the hills are well wooded; round the fringes, where they slope down to the plains, they are covered with scrub or bare.

The valley of the Akar Chai has an average width of seven or eight miles. The soil is very fertile, but inundations restrict agriculture to the higher ground on either side. The Akar Chai runs through the Eber Göl into the Ak Shehir Göl, where the water disappears by evaporation and possibly by underground channels. Both these lakes vary in extent with the season.

South of Chai the Sultan Dagh bends south-westwards and sends a ridge down to the neighbourhood of Uluborlu. This ridge is separated by a series of valleys, divided by low passes (along which runs the Dineir–Chai road) from the irregular quadrilateral of mountain ridges to the south of Afium Kara Hissar. These ridges surround the plain of Kassaba, which drains to the Akar Chai. The most westerly group slopes down to the plain of Sandykly, while on the south-west the ridges merge into the spurs of Samsun Dagh, north of Dineir.

The Sultan Dagh stretches south-eastwards from Chai for nearly 70 miles. It is a bold lofty ridge cut by V-shaped valleys on both flanks. On the north-eastern flank in the neighbourhood of Chai the Sultan Dagh falls steeply down to the plain, but as one travels south-eastwards, and as the range decreases in height, it throws out bold spurs towards the plain, some of which merge into the hills north and north-west of Ilghin, forming ridges over which the roads must pass. This district is well watered by a large number of streams flowing down from Sultan Dagh, and there is a large amount of cultivation. On the south-western flank the shape of the ground is similar to that on the north-east, but on this side the longer and bolder spurs are towards the north-western end of the range, and here, too, the roads have to cross a monotonous series of rounded elevations, interspersed with

fertile valleys, and running athwart the corridor between Sultan Dagh and the northern wall of Taurus.

To the north-east of Beyshehir and Soghla lakes, the Sultan Dagh seems to spread out fanwise into a confused mass of ridges and peaks, whose structure and direction is very inadequately known. The most northerly rib of the fan is the lofty ridge which stretches from south of Ilghin to the pass between Konia and Ladik, over which it is continued by a neck connecting with the Boz Dagh (see p. 98). This ridge, like the Sultan Dagh, throws a series of bold spurs northwards into the plain. Near its eastern end is a steep bluff towering over the valley of Syzma, which forms a conspicuous landmark in the plains to the north. On the south, this ridge is separated by the Bashara Su, flowing to Konia, from a group of peaks which appears to be the continuation of Sultan Dagh proper, and whose most prominent members are the Ala Dagh (6,500 ft.) and the Kyzyl Ören Dagh. The Göstenik Dagh and Loras Dagh, overhanging Konia, belong to a ridge, running north and south, which forms the backbone of the southern part of this system (here the metaphor of the fan breaks down). This ridge is called in different parts the Kayaly Dagh, Üch Punar Dagh, Egri Boyun Dagh, and Alaja Dagh, and it forms the watershed between the basin of the Bey Shehir Chai and the streams which run eastwards to the Konia plain. From this backbone parallel ribs run eastwards to the Charshembe Su and south-westwards to the valley of the Bey Shehir Chai, which here forms the dividing line between the central mountain system and the inner wall of Taurus. On the north, this ridge merges into the spurs of the most northerly ridge, forming a ledge falling rather steeply to the plain.

It thus appears that the axis of this part of the west-central mountain system is formed by a series of ridges running from Eskishehir to Konia. There is one great breach in the series, the valley of the Akar Chai, which is the only important avenue of communication from east to west through this inner fold in the mountains. On the north-west, owing to the gradual slope of the plateau as a whole towards the north, the

drainage of both flanks of the main ridge flows off into the Sakaria. Through the valley of the Akar Chai there flows the drainage of a wide area round Afium Kara Hissar. The Sultan Dagh divides a drainage area sloping to the central plains from one sloping to the great lakes, and, through them, by underground channels, to the southern sea.

To round off the description of the mountain system lying between the Taurus range and the central plains, we may here include some account of the hill-country lying between the Charshembe Su and Karaman. South of this region, the Gök Su rises on the northern flank of the Taurus range, and flows eastwards for some distance before it breaks through Low Taurus (see p. 21) to the sea. The northern rim of its basin, where it flows eastwards, is formed by a series of ridges, with rounded elevations, which extend eastwards from Siristat to Haji Baba Dagh, west of Karaman, and then south-eastwards to join the main Taurus system at the Yedi Bel. The steep summit of Zengibar Kale (alt. 4,600 ft.) is the culminating point of the watershed between the Charshembe and Gök Su on the west: from here the ground slopes down gently towards the Charshembe valley on the north, and falls rather steeply to the Gök Su on the south. A festoon of lower ridges and peaks—Chokka Dagh, Karachal Dagh, Kuyusu Dagh—connect Zengibar Kale Dagh with Haji Baba Dagh (alt. 5,600 ft.), a massive rounded mountain which towers impressively over the country west of Karaman. These ridges fall gradually down to the north through a tangled tract of hill-country, covered with scrub, to the level plain, which is reached in the neighbourhood of Dorla and Güdelisin. North of Haji Baba Dagh itself, a low ridge connects this system with the Kara Dagh, which is described on p. 101. South-east of Haji Baba Dagh the watershed between the coast and the interior depression runs along a well-marked ridge, which gradually increases in elevation towards the east.

In vegetation this region shows a marked contrast to that of the mountain system lying between it and the coast. Owing to the dryness of the climate here there is little weathering of

the surface and the chief vegetation of the plateau districts consists of scrub growing in tufts at intervals of several yards, the intervening ground being bare except in early summer when there is a scanty covering of grass and ground shrubs. The scrub is composed mostly of dwarf fir and juniper, deciduous oak and other foliaceous bush, and prickly shrubs. Evergreen scrub is not found. The bush gradually disappears as one proceeds inland, giving place to ground shrubs and grass. Single pines and junipers may be seen here and there. On the hills, owing to greater rainfall and the moisture afforded by the melting of the snows, vegetation is more abundant. On the western mountains the scrub of the lower slopes gives way higher up to high deciduous bush which, in turn, gives place to pine forest. The wooded areas of course have been greatly reduced owing to the demands made on them by the surrounding unwooded districts.

(2) *The Lycaonian Steppe.*—The Lycaonian Steppe, which stretches in level uniformity from the west-central mountains on the west to the vicinity of the Cilician Gates on the east, and from the Sultan Dagh and the Taurus range on the south to the rim of the Sakaria basin, the Karaja Dagh and the Pasha Dagh on the north, is the most striking part of the central plains. This area is divided into two portions, (*a*) a western and (*b*) an eastern, by the Boz Dagh, which runs into the plain north-east of Konia.

The lofty ridge which runs from the longitude of Ilghin to that of Ladik (p. 96) comes to an abrupt end in a steep escarpment south of Ladik. From the base of this escarpment the ridge is continued eastwards by a col of no great breadth which connects with the Boz Dagh north of Egri Bayat. From this point, the Boz Dagh throws off two distinct ridges. One, the shorter, runs north-eastwards to a point a few miles north of Suverek, where it is succeeded by a series of isolated peaks rising sheer out of the plain and extending towards the Salt Lake. The other, the longer, runs south-eastwards to Genne, where it throws up a peak which forms a good landmark in the plain to the east. It is

indeed continued farther southwards as a distinct rise in the plain, and even dips, four miles south of Genne, to a broad pass through which runs the road from Konia to Aryssama. The Boz Dagh is a bare, treeless, waterless wilderness of subdued ridges and cols. It is nowhere of great height, but it forms a complete barrier to traffic except over a few low passes.

(*a*) On its southern side, the western portion of the steppe is bounded by the outliers of the Sultan Dagh and its eastern extension, already described (p. 95). From these hills, numerous streams run down to the plain, extending a belt of cultivable land along its southern border. The western boundary is the series of hills between Ilghin and Piribeyli, which generally fall steeply down to the plain like a bold coastline to the sea. On this side no streams enter the plain, and this is its most sterile and uninhabited part. On the north, the plain is separated by a region of low ridges from the southern slope of the Sakaria basin. The boundary of the level steppe in this region runs roughly from the Ak Göl to Insuyu ; for a considerable distance west of Insuyu the boundary is represented by a remarkable ledge, facing south-westwards, which has probably been formed by a fault in the limestone strata. Along the bottom of this ledge a stream flows eastwards past Inevi to the Salt Lake. North of this ledge, stretching as far as the Karaja Dagh, lies a region of bold undulations, which belongs historically to Lycaonia, but in geographical structure rather to the region of the Galatian uplands. On the east, this region again gives place to a level plain which extends around the northern portion of the Salt Lake.

North of the middle of this tract of steppe there rises a low ridge, the Ala Dagh, aligned roughly north and south. South-east of Zebir lies a region of low hills and undulations, extending to the Murad Su, a sheet of salt water lying west of the Salt Lake. The central portion of the plain appears to the observer from a distance to be perfectly flat, but the traveller who crosses it finds it to consist of a series of very

gentle undulations, which continually restrict the view. The plain is covered in spring and early summer with a good growth of rough grass, which withers in July. It is tenanted only by shepherds; agriculture is restricted to a few patches along its borders. Springs rise here and there, especially on the east and north-east; elsewhere water is got from deep wells, and is often brackish.

The main settlements are Atlandy, Gozlu, Suverek, Cheshmeli Zebir, Insuyu, Inevi, Bulduk, Kozanly, and Yarashly; at all of these there are springs or streams. All these are small places of a few hundred inhabitants each. This plain is the Axylos or 'Treeless country' of the ancient Greeks; it lies at a height of about 3,200 ft. above sea-level.

(*b*) The eastern portion of the Lycaonian plain lies at a mean altitude of about 3,300 ft., falling to 3,100 ft. at the Salt Lake. This portion of the plain extends from Konia to Nigde and from the Salt Lake to Karaman. It is extraordinarily level, and has often been compared to the sea. Rising sheer out of the level plain, like islands in the sea, are a number of volcanic peaks and ridges, which stretch in a line from the Kara Dagh, north of Karaman, to the Hassan Dagh, south of Ak Serai. The most considerable member of the series linking up these two mountains is the Karaja Dagh, a long ridge with a large number of volcanic peaks rising out of the plain east of Karapunar. Separated from the Karaja Dagh by a broad pass on the north is the Aryssama Dagh, a lower group with three peaks; between Aryssama Dagh and Hassan Dagh the plain is level. Between Karaja Dagh and Kara Dagh stands a row of volcanic cones of no great height, whose location is not shown on any map. West of Karapunar there is a low ridge culminating in Üzejik Dagh, and extending northwards as a steep ledge, facing eastwards. It is not known how far northwards this ledge extends; it is a marked feature in the landscape a dozen miles north of Karapunar.

Here again the drainage from the inner slopes of the mountain rim waters a strip of land along the southern fringe of

the plain, and renders the deep soil very fertile. South-east of Konia this strip has been artificially extended by the enterprise of the Baghdad Railway Company, who have brought a good supply of water from Beyshehir Göl to irrigate 100,000 acres of rich soil. The irrigation canal follows the bed of the Charshembe river, and is divided by weirs in the plain into three main arms, which reach most of the level tract between Konia and Kara Dagh. This part of the plain slopes very gradually down from south to north ; the lowest part lies round the village of Divanlar, near the Boz Dagh. Close around the western foot of Kara Dagh there is another depression, from which the mountain rises like an inverted cup in a saucer, and here, as well as north and east of Konia, the drainage from the hill-sides forms extensive marshes in spring. The soil is rich and loamy, but in many places, especially in the depressions, it is covered with a crust of salt, or impregnated with saltpetre.

Kara Dagh is the name given to a block of volcanic mountains which rise from the level plain north of Karaman. The outline of the Kara Dagh is oval, with the longer axis nearly north and south. It is divided into two masses, a northern and a southern, crowned by the peaks of Mahalych and Bash Dagh respectively. Mahalych rises to nearly 7,000 ft. above sea-level and 3,700 ft. above the surrounding plain ; Bash Dagh is probably a few hundred feet lower. Under and close to either peak there lies a large crater ; that on Mahalych is oval in shape and is said to be nearly 3 miles long. On the west, south, and east the mountain falls steeply to the plain ; on the north it throws out two spurs, Kyzyl Dagh and Maden Dagh, which are continued by low outliers towards the north-east. Between the spurs lies the valley of Maden Shehir or Bin Bir Kilisse, which supported a large town in the Byzantine period. The mountain is largely bare or covered with scrub ; a small wood in a valley on the north side is the only remaining trace of the forests which formerly covered the Kara Dagh.

North of the Boz Dagh, the terrain slopes gradually down through a region of level plain and gentle undulation to the

Tuz Göl or Salt Lake (p. 124). Due south of the Tuz Göl, and extending towards Ak Serai, lies a marshy area formed by streams flowing from Hassan Dagh or from springs in the plain towards the lake.

Between Hassan Dagh and Karaja Dagh on the north and west, and the inner wall of the Taurus range on the south and east, lies a wide flat plain drained and inundated by the sluggish stream flowing into the Ak Göl west of Eregli. The greater part of the plain is marsh and desert, but round the base of Hassan Dagh and Taurus there lies a series of cultivated patches, dotted with villages. The streams watering these patches are formed by the melting of the snow on the mountains, which continues till June. On the eastern fringe of the plain crops of cereals, vegetables, wine, fruit, and cotton are grown, and considerable herds of cattle are pastured.

There remains the plain of Karaman, lying in a nook between Kara Dagh and a northern ledge of Taurus. This plain is a low depression into which streams from Taurus discharge their water, forming a marsh which rises high enough in spring to discharge into the Ak Göl. A proposal has been made to deepen the channel leading to the Ak Göl, and thus extend the cultivable area around the marsh.

The chief centres of population in the eastern part of the Lycaonian plain are Konia, Karaman, Eregli, Nigde, Ak Serai, and Karapunar, all except the last lying on the fertile fringe of the plain, near the points where the chief roads leave the plain. A considerable area on the south side of the plain has been or could be rendered suitable for cultivation by artificial irrigation. The remainder of the plain is steppe or salt desert, and maintains a scanty pastoral population.

(3) *The Cappadocian and Galatian Uplands.*—The region of uplands which occupies the northern and eastern parts of the central area, corresponding roughly to ancient Galatia and Cappadocia, has the character of a land of transition between the northern mountain rim and the arid plains of Lycaonia, and, in a lesser degree, between the definitely central-Asiatic plateau of Armenia and Antitaurus, and the

mixed Pontic and Aegean type of the west-central mountains. The boundaries of such an area cannot be strictly defined, but are roughly as follows.

On the north-west, the region of uplands merges into the northern mountain-rim in the Boz Dagh and Kartal Dagh (4,500–5,250 ft.) which fill up the corner between the Porsuk and Sakaria rivers north-east of Eskishehir. Hence to the Aidos Dagh, which is a sort of bastion of the northern rim, the boundary line crosses the basin of the Sakaria and passes to the north of the fertile plains of Murtad Ova and Chybuk Ova, both of which communicate with the outer world by the Angora–Beybazar road. From Aidos Dagh the line runs to Osmanjyk, where the Kyzyl Irmak begins to cut its way through the northern mountains. But it is true of this region as a whole that spurs and detached masses, which belong to the systems of the northern rim, lie south of the boundary line. Such is the Mire Dagh, separating the Murtad Ova from the Chybuk Ova.

East of the Kyzyl Irmak, the following is the line on which the rolling steppes of the interior merge into the northern mountain rim.

From Osmanjyk to Amasia it passes along the line of hills lying to the south of the Osmanjyk–Merzifun–Amasia road. From Amasia it runs to the Emir Dagh area north-east of Köne, whence it crosses the Chekerek gorge and continues eastward along the crest of the Deveji Dagh to cross the river again at a point below Sulu Serai. It is continued eastwards by the Chamly Bel Dagh. This line corresponds roughly with the southern limit of the wooded belt which covers the northern mountains.

From Chamly Bel Dagh, the boundary may be drawn along the crests of the mountains surrounding the upper basin of the Kyzyl Irmak. Thence, towards the south-west, it runs along the slopes of Antitaurus and Taurus as far as Nigde. From Nigde it runs towards Hassan Dagh, the hills east of the Salt Lake, and along the Pasha Dagh and Karaja Dagh to the southern rim of the Sakaria basin (see p. 99).

Structurally, what distinguishes this region as a whole from the Lycaonian steppe is that it consists of the upper part of a series of river basins, draining to the north, while the Lycaonian steppe is a flat depression, with no outlet to the sea. The upland region accordingly assumes the character of a land of downs and bluffs, cut by river valleys. Corresponding to the alternation of hill and valley we find here a constant variety in the soil and vegetation, steppe alternating with agricultural land. The sense of variety is further strengthened by a gradual change in character from north to south. The river valleys which break through the northern rim of mountains carry the characteristic climate and vegetation of the Pontic area far back on to the plateau, while the steppes which divide the river valleys exhibit the features of the central plateau.

On the south-east, the country of rolling uplands, as distinct from the exterior mountain rim, may be said to begin where the Kyzyl Irmak passes between Ak Dagh and Khanzyr Dagh between fifty and sixty miles north-east of Kaisari. Here begins the characteristic region of the middle Kyzyl Irmak, which took its Greek name (Halys) from the many salt deposits along its course. It is a region of rolling steppe, with occasional ridges of no great height, aligned from north-east to south-west, and imposing a similar orientation on the main streams. In contrast with the higher mountains on the same latitude farther to the east, which come under the influence of the Pontic climate, these ridges are generally treeless. Only where Erjies Dagh catches the rain, and provides a spot of fertility in the desert, is there a thickly peopled area, set with cornfields and gardens. Elsewhere in this area—the ancient Cappadocia—there are only small scattered communities on cultivable patches, isolated from each other by wide tracts of pasture land, grazed by sheep and cattle.

The country to the south of the Halys is a rolling plateau, which slopes down from the spurs of Antitaurus in gentle terraces, divided by watercourses into a series of narrow

ledges. On the floor of the valleys Armenian peasants cultivate strips of land, and even send some corn to market. There are extensive deposits of rock salt in this area. On its southern edge rise the gentle outlines of Khanzyr Dagh and other limestone ridges, which in their structure and the dark scrub on their slopes mark the transition to the Taurus system on the south.

As the Erjies Dagh is approached, masses of dark tufa cover the ground, water becomes more plentiful, and the soil more fertile. Between the grey outlines of Antitaurus and the snow-capped peak of Erjies the landscape is studded with villages, set among gardens. This southern portion of Cappadocia is the most varied and picturesque part of the interior, a playground of Geology in its most impish mood. On an extensive layer of volcanic rock, mainly trachytic, peaks of lava and wide deposits of tufa produce a fantastic landscape.

The Erjies Dagh, 13,000 ft., rises from a base level of 3,000 ft., and is divided by a deep depression, running north and south, into two groups. The eastern, the Koch Dagh, is 8,400 ft. high, and richer in vegetation than the loftier western group. A couple of streams have deepened the depression to a gulley with steep walls, which gives the directest access from Kaisari to the south. Round the lower slopes of Erjies the streams irrigate gardens, meadows, and fields. On the south-west, close under Erjies Dagh, lies the Sultan Sazy, a salt marsh covered with reeds, without any outlet. On the northern side the surface water drains into the Kara Su, and Kaisari stands on the edge of a patch of fertility.

A low ridge of stony steppe separates the depression around Erjies Dagh from the volcanic region to the west. Here wide valleys have been hollowed out of the layer of tufa by the action of water, in which stands a grotesque mass of pyramids and pillars of the soft rock, generally owing their preservation from erosion to a hard stone on the top. On the floors of the valleys straggling villages appear among gardens and vineyards, with here and there a larger settlement, such as

Nevshehir and Ürgüb. Towards the south, undulating steppe, grazed by Turkmen shepherds, extends as far as Hassan Dagh.

To the north-west of Nevshehir, extending as far as the head of the Salt Lake, lies a little known tract of hill country, with ridges aligned from north-west to south-east. The volcanic surface is pierced by rounded ridges of granite, and the valleys afford pasture to large flocks of sheep. The highest of the ridges is the Ekejik Dagh, which forms the watershed between the Halys and the Salt Lake, and whose highest point forms a good landmark in the plains to the west.

The country north of the great Kyzyl Irmak bend consists of wide open elevated plains, extending on either side of the upper basin of the Delije Irmak. This area is separated from the valley of the Kyzyl Irmak by a continuous series of mountains and ridges that rise abruptly from the river valley.

Commencing with the range that lies between the Kyzyl Irmak and the Yeni Khan Su, the ridge continues through the long chain of Ak Dagh, a series of parallel folds, of undulating contour, clad with trees on the northern slopes. Between the folds lie narrow valleys or small verdant plateaus. In the north-east this range rises to 6,600 ft. On the south-east, it ends in rounded heights, and is caught up after a small depression by the little Ak Dagh, whose western limits lie some six miles south-west of Isoba. Stony plateau country unites the end of this range with two ranges, rising to 5,400 ft., between which passes the Yozgad–Kaisari road. Thence westward the ranges continue, under various names, to the Bozluk Dagh, a bare granite mountain culminating in a single cone; they then curve round first to the northward, as the massif of Yaryn Kale, and next to the eastward as part of the Chichek Dagh area. On the north-west slopes of the latter mountain lies a forest of dwarf oak.

From the neighbourhood of Avanos commences a further series of ranges lying between the above-mentioned ridges and the Kyzyl Irmak valley, notably the Akajyk Dagh and

the Kyrka Dagh, a granitic range separated by a region of flat, barren upland from the Agha Bayr and the Baranly Dagh, both mountains of gneiss, with bare rounded summits. The two last mentioned ranges enclose between them and the river the little-known region of the Emir Burun, notable for its hot sulphur springs. Parallel to them on the north lie the Kyzylja Dagh, a high bare range, and the Obruk Dagh and Kurt Beli. The western extremity of the Baranly Dagh is joined by a col to the northern series of ranges above mentioned, and also connects with a further series of hills running parallel to the Kyzyl Irmak, the Matryk Dagh, a volcanic range of grotesque shape, the Karabogha Dagh, and the Chelebi Dagh. Opposite this height the ranges (Bairak Dagh and Denek Dagh) trend northward, parallel to the river.

Of the slopes of the hills towards the Kyzyl Irmak little is known. In the narrow well-watered valleys of short tributary streams, especially in the southern portion of the area, a fair number of villages appear among fields of wheat and barley, orchards and vineyards.

The plains and plateaus which extend on either side of the Delije Irmak, from its source (alt. 4,000 ft.) to the point near Chercheli (alt. 2,200 ft.) where it changes its course from west to north, appear from any of the granitic or basaltic ridges which form the higher limits of the undulations as a brown, arid country, sloping generally down from the Ak Dagh and the hills that border the Kyzyl Irmak valley, and on the north, rising again to the heights of 4,000 to 5,000 ft. which border the western bend of the Chekerek, and the volcanic mass of Kabak Tepe near Yozgad.

This area is well watered at its eastern and south-eastern edge by mountain drainage.

The plateau steps mounting to Ak Dagh, as they follow that range to the south-westward, descend until on a line roughly following the Karajiler Su they merge into the plain of Bozuk. This plain stretches from the border hills on the south to the Konak Su on the north, and extends westwards to the Chichek Dagh region. Its surface is in places broken

by ravines; generally it is a series of undulating flat-topped downs. Near the south-western edge lies a salt lake, the Magly Göl.

Except on the west, the Bozuk plain lacks water. It is a pastoral area, with a very few Kurdish villages beside patches of corn-land. Kurdish shepherds are the main population. Round the Karajiler Su are fertile grazing plains, the haunt of herds of horses and camels, and flocks of sheep. Boghazlayan, among corn-fields and vineyards, is the only place of any size.

On the north of the Delije Irmak the country is again arid, but is cut by valleys and gorges with settlements of Turkmens and Armenians, surrounded by good gardens and vineyards. Barley and oats are grown in the valley bottoms, while the higher levels are devoted to sheep and goats belonging partly to the settled inhabitants, partly to tribes of Avshars who frequent the district in summer. This district also produces cattle, horses, and camels. The central market is Yozgad.

On the slopes of Soluk Dagh, south of Yozgad, lies a wood of fir trees. This, the forests on Ak Dagh and Chichek Dagh, and a few isolated clumps round the Kabak Tepe, north of Yozgad and in the neighbourhood of Boghazlayan are the only woods in the area between the Kyzyl Irmak bend and the Yozgad district.

The Soluk Dagh extends to the east as the Muslibelen Dagh and the Kerkanos Dagh, and round both, to the eastward, flows the Köne Su. The valley of this stream is an excellent agricultural district, and the best grain-producing area for many miles around.

East of Köne, the hills merge into the plateau, and from this point a watershed runs to the western extremity of Ak Dagh. On the eastern side of this almost imperceptible watershed the plateau descends eastward and northward to the Chekerek Irmak, forming a well-watered area as far as Chamly Bel Dagh and the col connecting it with Ak Dagh. North of the Chekerek valley lies the lofty barrier of Deveji Dagh, which extends on the west to the neighbourhood of

Köne. It is a barren or scrub-clad ridge. The Chekerek Irmak breaks through it in gorges near its western extremity.

The valley of the Chekerek is fertile in parts, as are those of its tributaries from the southward and south-eastward. On the higher ledge of the plateau, towards Ak Dagh, lies Ak Dagh Maden, the centre of an agricultural region with some 170 villages. To the west, the country is partly wooded.

North of the high ground which stretches east and west from the Kabak Tepe undulating and cultivable plateau at elevations varying between 4,000 and 2,000 ft. and generally falling to the northward stretches right to the hills which border the southern limits of the Merzifun plain, and the series of depressions through which passes the Osmanjyk–Merzifun–Amasia road. This plateau area has a watershed running roughly northward from the Kabak Tepe. From this watershed the streams that drain the plateau to the eastward descend by long courses to the Chekerek Irmak, first through the fertile expanses of plain lands that form the lower levels of the country near the watershed, and then, in their lower courses, through narrow but equally fertile valleys dotted with villages and vineyards from which the ground, generally covered with oak scrub, rises abruptly to summits at the general plateau level.

To the westward, on the contrary, only short streams descend to the valley of the Delije Irmak and the valley or gorges of the Kyzyl Irmak, the latter river forcing its way through the plateau that rolls onward to the hills and mountains beyond the western bank of the river.

The whole region, lying between these latter mountains and a similar mountainous zone to the east of the Chekerek—both tree-clad mountain districts enclosing narrow plains and valleys possessing an abundance of fruit gardens and agricultural vegetation—is, as it were, a northern tongue of the generally treeless plateau lands of the central portion of the peninsula, which in this region encroaches upon and forms an exception to the general limits of the northern coastal rim.

In the south-eastern portion of this area, rising abruptly

from the Chekerek valley to a height above the general level of the plateau, lie the jagged summits of the little known mass of the Emir Dagh system.

Lying between these ranges and the watershed crests that run north from the Kabak Tepe is the considerable upland plain of Alaja. Here lies the small Turkish town of Alaja, with a population of some 600, the centre for the surrounding treeless district of Turkmen, Kyzylbash and Circassian villages.

Wheat, barley, flax, maize, and millet are grown, but there is much untilled land that might be cultivated.

The plain is drained by the Alaja Chai, which receives the waters of the Arabsefer Su flowing from a fertile valley to the south, and then breaks through the northern scrub-covered plateau levels in a north-easterly direction and joins the Chorum Chai.

The latter stream flows from the north-west, passes the town of Chorum, lying under the hills to the north, and continues through the wheat and barley fields of the Chorum plain. After its junction with the Alaja Chai it turns east and enters a narrow vine-growing valley, which it leaves at a point a few miles south-west of Amasia.

Chorum (alt. 2,300–2,600 ft.), an important place of some 20,000–22,000 souls, is a cereal market of some importance. It is built in a side valley at the northern edge of the plain.

The plain is surrounded on all sides by the mountainous plateau which—apart from a few peaks that rise somewhat higher—has hereabouts a general level of between 3,500 and 4,000 ft.

To the south-eastward lies the Dangush Dagh which rises in terraced cliffs above the Emir Chai valley, as the lower Chorum Su is called.

The mountain forms the eastward continuation of that watershed which farther south—as the Emir Dagh—separates the Alaja Chai waters from those of the Chekerek.

The watershed here trends north-eastward and continues in the Dola Dagh and Chai Köi Dagh, the junction of the Chekerek and Chorum Chai lying at the foot of the latter

mountain. The slopes of these hills—wooded with oak and juniper—rise to summits at an altitude of barely 4,000 ft.

The valley of the Mejid Özü Su rising in the plateau to the north of the Chorum Su divides the north-eastern limits of the plateau, which lie between the Chorum Su valley and the Merzifun plain, into two tongues of plateau running eastward parallel to the Dola Dagh and the Chai Köi Dagh.

The southern tongue is connected on the west by a wide treeless plateau to the undulating lower spurs of the Eyerji Dagh which rises above Chorum. The tongue continues eastward as the Kyzlar or Ak Dagh (5,900 ft.) a wooded mountain with steep walls rising to a rocky conical peak, beyond which difficult wooded hills, becoming bare to the eastward, fall to the Amasia plain.

The Mejid Özü Su which runs between the southern and northern tongues of plateau rises in the high ground about the Eyerji Dagh and flows through fertile plains and vine-producing ravines, with many villages, past the small agricultural centre of Mejid Özü.

The northern plateau tongue runs eastward from the high ground around the Eyerji Dagh as a slightly undulating highland lying between 3,500 ft. and 4,000 ft., with scrub here and there, and terminating in the precipitous crags which descend to the Yeshil Irmak valley opposite Amasia. North and north-east of the Eyerji Dagh plateau country, with ridges rising from 4,000 ft. in the south to 6,000 ft. in the north around Gümüsh Khane, sweeps towards the Tavshan Dagh and the Merzifun plain. Under the Eyerji Dagh to the north-east lies the good corn-growing upland which is drained by the Alajyk Su, flowing north-eastward to the Merzifun plain.

The headwaters of the Chorum Chai flow in an elevated plateau lying to the west of the Eyerji Dagh. That mountain is joined by the Kyrk Delim Dagh—whose forest-clad slopes drop abruptly to the Kyzyl Irmak valley on the north—to the high corn-producing plateau of the Köse Dagh on the west.

The steep western slopes of the Köse Dagh are watered by short streams running to the Kyzyl Irmak gorges. The Köse Dagh plateau is the northern limit of a plateau area which covers all the country lying between the Kyzyl Irmak and the watershed which divides the waters of the Yeshil from those of the Kyzyl Irmak. The whole of this sparsely populated area is traversed by numerous parallel mountain chains, joined by transverse ridges.

Above the Ibik Boghaz gorge opposite the Köse Dagh the bare Kyzyl Irmak valley is open and wide for the most part—an area of settlements of Turkmen engaged in the raising of corn, and the breeding of numerous herds of camels, oxen, and buffalo. Salt pans and salt deposits are found here and there along the bank.

The plateau in the area east of the Kyzyl Irmak is watered by the chief tributary of that river—the Delije Irmak. The latter river, after rounding the spurs of the Aghara Dagh to the west of the Kabak Tepe, turns northward and joins the main stream at Kula. It flows over the plateau through a broad, bare, partly cultivated valley lying between cliffs of mica and gypsum.

The portion of the country lying eastward of the Delije Irmak, though in the main a sparsely populated and bare plateau, is not entirely so. The village of Sarykamysh, for instance, lies in an extensive plain below the general plateau level surrounded by cultivation and grazing-grounds for herds and flocks. To the north-west of the village the hills of the plateau contain extensive deposits of rock-salt.

Farther to the southward, also, the Sungurlu stream, after rising in the scrub-covered heights of the Aghara Dagh near Boghaz Köi, continues onward first in a northerly and then in a westerly direction through a broad, deep, well-cultivated valley and past the town of Sungurlu, to join the Delije Irmak. Sungurlu, lying at the low level of 2,500 ft., is an agricultural centre of no little importance. The valley, which is renowned for its fertility, produces wheat, barley, opium, and cotton. About the watershed north-east of the

town lies the corn area of the Öyük plain, beyond which in the same direction lie hills containing deposits of iron and copper. The plateau-slopes lying between the Aghara Dagh crests, the Sungurlu, and the Delije Irmak valley to the west is an area of open cornlands.

In that part of Galatia which lies to the west of the Kyzyl Irmak, the uniformity of the plateau is more striking than on the east, but here again it is broken by scattered mountain masses. This region extends from the northern boundary of Lycaonia (see p. 99) to the northern mountain rim, and includes the western slope of the Kyzyl Irmak basin and the upper basin of the Sakaria. On the south, the Pasha Dagh and Karaja Dagh mark the transition from the Lycaonian plains, and farther to the west the terrain falls down in terraces from the plain-level to the Sakaria. The country lying between the Sakaria, the Engüri Su, the Kyzyl Irmak, and the Karaja Dagh is known by the name of Haimane, It is a region of rolling steppe, with only occasional patches of cultivation, and many flocks of sheep and Angora goats, and herds of cattle. The population is Kurdish and Turkmen. On the north-east, two mountain ridges, the Elma Dagh and Küre Dagh, run nearly parallel to the Kyzyl Irmak. The Elma Dagh approaches 6,000 ft. in altitude; its rounded outlines are topped with forest and scrub. Between the two ridges lies a well-watered valley, where cultivation alternates with marsh. From Küre Dagh to Pasha Dagh stretches a monotonous plateau, tenanted mainly by Kurdish shepherds. North-west of the Elma Dagh lies the valley of Angora, a region of surpassing fertility, supporting a large population.

The watershed between the Kyzyl Irmak and Sakaria basins runs roughly along the line of the Konia–Angora road from the Karaja Dagh to Chakal, and then north-eastwards along the ridge of Elma Dagh. West of this the country falls down very gently in broad steps, broken by river valleys, towards the Sakaria. The chief of these valleys are the valley of Yapan Hammam, the central town of the Haimane, and the valley of the Katranjy or Ilija Chai, which, with its

tributaries, affords room for a certain amount of cultivation. These valleys are separated by a low ridge, Chal Dagh and Ardyj Dagh, lying near the centre of the Haimanc. On the north-west, between the Angora railway and the Engüri Su, lies a block of hilly country which is an outlier of the northern rim. The lower valley of the Engüri Su, like that of the Sakaria where it runs through Galatia, is marshy and barren.

The valley of the Porsuk Su from Eskishehir to its junction with the Sakaria is either marsh or waste. On the south it is bounded by a ridge of hills, high opposite the river bend between Sary Köi and Bicher, and gradually sinking on either side, especially on the east where they merge into the gently-undulating, waste table-land which fills the corner between the two rivers. The southern slopes of this ridge roll down to a long valley running westwards from Mülk, which rises more sharply up to the slopes of the Günüsü Dagh. The valley is drained by the Mülk Su and its tributaries, flowing north-east to join the Porsuk Su. Sivri Hissar, the chief town of the district, lies on the western slope of Günüsü Dagh, a massive ridge running south for twelve miles, and then bending eastwards along the Sakaria valley. Its southern and western slopes are mostly bare, but the country lying in the angle to the north is well watered and fertile, and covered with villages among trees and gardens.

North-west of Sivri Hissar a low rounded ridge extends to the vicinity of Eskishehir, and divides the Porsuk from the Seidi Su valley. Near the western end of this ridge are the meerschaum mines for which Eskishehir is famous. The open valley lying between this ridge and the mountains described on p. 94 is mainly steppe or marsh, with some cultivation.

North of Angora lies a group of andesitic mountains, sparsely wooded, and interspersed with a series of fertile valleys, of which that of Kalejik and Chybuk Ova are the chief. In these valleys the transition from the central plains to the climatic and vegetative conditions of the Pontic area is clearly marked, and they have the advantage of being

sheltered from the north winds by the proximity of the mountain rim. This region abounds in cornfields and vineyards, and cotton and silk are produced in favourable spots. The same is true farther to the west, where a wide table of trachyte and andesite is cut by deep valleys into a series of massive ledges, with undulating surface. The slopes are covered in many places with dwarf oak and fir, while the valleys are generally well tilled, with vineyards and fields of maize. Such are the Murtad Ova and the little plain of Istanoz.

Watersheds

On the Central Plateau of Asia Minor there rise streams which flow to the Black Sea, the Aegean, the Eastern Mediterranean, and the Persian Gulf, as well as streams which flow into the central depressions. The streams flowing to the sea have already been described in the sections dealing with the coastal regions, and the inland drainage area north of Lycia has been described on p. 30 f. The present section deals with the watershed of the great central depression, and the succeeding section with the rivers which flow into it, and the lakes which they form.

Thirty miles west of Afium Kara Hissar the slightly elevated rim of the plateau divides the basins of the Sakaria, the Maeander, and the Akar Chai, the first two flowing to the sea, the last into the central depression. The watershed between the Porsuk (a tributary of the Sakaria) and the Akar Chai runs along the arc of ridges described on p. 94.

From the ridge north of Ak Göl (east of Piribeyli) the south-eastern watershed of the Sakaria runs roughly in the direction of Kelhassan : to determine its exact line, further exploration is required. The high ground which culminates in the Karaja Dagh and Pasha Dagh, north of the Tuz Göl, determines the flow of water to the Sakaria, Kyzyl Irmak and the central depression respectively. The Karaja Dagh (altitude unknown) is an imposing ridge, which slopes down to the east as Pasha Dagh, and is continued towards the south-east by an

outlier which separates the valley of Kozanly from the Tuz Göl. This outlier is succeeded on the south by Tavshan Chale Dagh, a low ridge to the east of the plain of Bulduk. The highest peak of Karaja Dagh, called locally Kyrklar Tepe, is about 10 miles north-north-east of Kozanly. On the northern side of the mountain, a small lake, about 1 mile broad, called Göghler Göl, overflows into a marshy plain with no outlet, and south-east of this lake a stream flows off to the Ajy Özü valley and the Kyzyl Irmak. Not far to the west, a valley runs westwards, meeting at right angles the valley of the Zebiri Balia Chai, a stream which flows southwards through a fertile valley into the Samsam Göl, west of the Karaja Dagh. The water from this lake may find its way into the valley of Kozanly ; the question is not settled ; but the watershed between the central depression and the Sakaria must lie along the high ground to the west of the Samsam Göl, and thence to the ridge east of Kelhassan.

From Angora to Kaisari, the western watershed of the Kyzyl Irmak basin is generally close to the river. At the northern end of the Tuz Göl, the Kyzyl Irmak is separated from one of the deepest parts of the central depression by a low plateau only 15 miles wide.

The Zamanty rises far to the north-east of Kaisari, and breaks through the Taurus range to the plain of Cilicia. Further west as far as the valley of the Gök Su the Taurus range forms the watershed between the central depression and the southern sea. Between Erjies Dagh and Hassan Dagh there runs a secondary watershed, which divides the Kyzyl Irmak basin from the depression south of Erjies, in which the water forms a marsh and escapes by evaporation. East of Nigde, on the col between Hassan Dagh and the northern outliers of the Taurus range, the flow of water is again divided between the Erjies depression and the great Lycaonian depression.

The Gök Su rises on the northern flank of the Taurus range and flows eastwards through the northern foothills for some distance before it descends through the great breach in the

range, north-west of Selefke. The watershed between the Gök Su and the Charshembe Su runs not far from the road from Siristat to Almasun. Both streams (the Charshembe Su being here known as the Siristat Chai) rise on the north-eastern flank of the Taurus range, south-west of Siristat, and their upper courses are separated by a spur of Taurus. Just north of the source of the Charshembe Su, a number of streams disappear into an underground channel, and escape under Taurus to the southern sea.

Further to the north-west, there is a large catchment area which appears to drain off, almost as if by choice, into the Mediterranean or into the Konia plain. A channel is shown on the maps running eastwards from the Soghla Göl, and apparently joining the Siristat Chai to form the Charshembe Su. This is only half the truth.

The lake of Beyshehir drains the south-western flank of Sultan Dagh, and the western slopes of the mountains west of Konia (see p. 96), but is no doubt mainly fed by springs under its surface. The surplus water flows out, at its south-eastern end, by the Beyshehir Irmak, and makes its way into the Soghla Göl. The further course of this water is wrapt in mystery. There is an underground exit near Arvan, on the south of the Soghla Göl. The level of the water in Soghla Göl varies from year to year ; it is said that the lake occasionally dries up completely. The theory has been stated that the underground exit becomes blocked up from time to time, and that the water rises until the passage is re-opened. The water is said to rise sufficiently, at intervals, to run off through the channel leading into the Charshembe gorge. There is evidence that this channel was used, and probably kept open, in ancient times, since when it has become silted up. In regard to the water from Beyshehir Göl, Art has intervened between the divided counsels of Nature, and the water is now carried in a canal round the eastern edge of Soghla Göl, and down the gorge, to irrigate the plain of Konia (see p. 119 ff.).

Further to the west, Sultan Dagh forms the watershed between the Ak Shehir Göl and the Egerdir Göl. The

principal feeder of the latter lake is the stream which waters the valley of Yalovach ; a few other inconsiderable streams flow into it, and no doubt here too springs under the surface supply the bulk of the water. The surplus water of this lake flows off by the Boghaz Su, at its southern end, into a small lake to the south (Koghade Göl), whence it makes its way to the southern slope of Taurus by an underground passage (cf. p. 32).

North-west of Borlu Dagh, the line of Jebel Sultan, Ak Dagh, Burgaz Dagh, is the rim of the central plateau. But the rim is broken through by the Kuru Chai from the plain of Sandykly, and a *düden* carries the drainage of the Dombai Ova under Sultan Dagh into the plain of Dineir. The water-parting between the central depression and the west coast lies further to the east, and runs from the ridge between the Chöl Ova and the Oinan Ova along the western ridge of the quadrilateral of mountains south of Afium Kara Hissar. The western slopes of this ridge drain into the Sandykly Ova and the Maeander, the eastern slopes drain into the Akar Chai. Between Afium Kara Hissar and the point 30 miles west of it from which this survey started, the watershed between the Maeander and the Akar Chai runs along the ridges bounding the Sychanly Ova on the south, and then runs north-west to cross the Smyrna–Kassaba railway a mile and a half west of Tolumpunar station, and mount a spur of Murad Dagh.

It will be clear from the above that the watershed of the central depression is much more restricted than the rim of the central plateau, which is broken through by valleys and gorges, or pierced by underground channels, in every direction.

Rivers and Lakes

It will appear from what has been said in the last section that a division of the drainage areas by means of rivers and lakes would be artificial. There follows a description, in succession, of the Ak Göl and its affluents, the Beyshehir Göl–Soghla Göl–Charshembe Su group, Egerdir Göl, Ak Shehir Göl and its affluents, Chaushjy Göl and its affluents, the rivers

of the mountains west of Konia, and Tuz Göl. It will be seen that many of the lakes in the plateau are mere stages in the course of the rivers, which may leave them either above or below the surface of the ground.

Ak Göl and its Affluents

West of Eregli, near the Baghdad railway line, the Ak Göl occupies the bottom of a swampy depression which extends a considerable distance to the east and west. North and west of Eregli, the marshes are formed by the sluggish Kyzylja Su, which flows from Nigde and the slopes of Hassan Dagh, and converts a large area into a swamp. This stream is joined by the Ivriz Su, a fine stream flowing down a valley south-east of Eregli, and broken up into a number of irrigation channels as it approaches the town.

On the western side of the lake, the Divle Su, except after heavy rain, is entirely used up for irrigation before it reaches the lake. And it is only after heavy rain or when the snow is melting that the Soghla Su, which carries the overflow of the marshes north of Karaman, makes any contribution to the Ak Göl. The Soghla marsh is formed by four streams, (1) the Ibrala Chai from Kyzyllar, (2) a stream from Kara Dagh, (3) the Kara Köprü Su, which flows west of Karaman, and (4) the Chaush, which rises in a small marsh in the plain of Karaman to the north of the railway near Sidrova, and empties into the Soghla marsh.

In the early spring, the Soghla marsh overflows and the water is said to flow to the Ak Göl to a depth of one yard. A proposal has been made to deepen the channel between the two lakes, and thus extend the cultivable area north of Karaman.

The Ak Göl is normally about 12 ft. deep. Its superficial area varies with the season. There is a *düden* on its southern shore, through which the flood water runs off under ground.

Beyshehir Göl, Soghla Göl, and the Charshembe Su

The relation of this connected group to the problem of the watershed of the central depression has been discussed on

p. 117. It remains to give some account of the members of the group, and of the irrigation system which brings the water to the plain of Konia.

The Beyshehir Göl is about 30 miles long, and has a mean width of about 10 miles. In superficial area it is smaller than the Tuz Göl, but its greater depth makes it the most considerable body of water in Asia Minor. On the east and south its banks are flat and in part marshy; on the west, the mountains fall steeply to the water's edge, rendering a road along this side impossible. Streams enter the lake on all sides, none of them of any importance. The lake is rich in fish. It is studded with islands, more extensively than is shown in the maps. The water has a grey milky colour, and the natives do not drink it.

The surplus water of the Beyshehir Göl is discharged into the Beyshehir Irmak, whose course winds over the bottom of a flat trough between the mountains, and discharges into Soghla Göl, draining the mountain slopes to the north as far as Kyzyl Ören.

Soghla Göl is surrounded by rich land on the north-west and east; on the south the wall of Taurus rises sheer above it. The area of cultivable land round this lake varies from year to year with the rise and fall of the surface.

The principal branch of the Charshembe Su rises in the Taurus range above Siristat; this branch enters the Charshembe gorge some 10 miles below its upper end. The gorge extends from a point 4 or 5 miles from the edge of Soghla Göl down to a point 5 miles west of Appa Serai, a total length of 24 miles. From this point the river runs through foothills to the Konia plain, crossing the Baghdad Railway near Chumra station.

The Baghdad Railway Company have carried out an ambitious scheme of irrigation in this area, whereby the surplus water of Beyshehir Göl is brought to the plain of Konia through the Beyshehir Irmak and the Charshembe gorge.

The relative elevation of the two lakes and of the plain of Konia, as ascertained by the Company, are as follows:

Beyshehir Göl, 3,674 ft.; Soghla Göl, 3,601 ft.; Chumra, 3,319 ft. (Kashyn Khan, 3,326 ft.; Konia, 3,365 ft.).

The scheme aimed at diverting the Beyshehir Irmak around the head of the Soghla Göl by means of a canal, and carrying the water directly into the Charshembe gorge. By this means it was hoped to drain the Soghla Göl, and render its floor available for cultivation. It was arranged accordingly that 500,000 dönums (177 sq. miles) of land should be irrigated in the Konia plain, and 80,000 dönums (28 sq. miles) on the Soghla Göl. As the work proceeded, it became doubtful whether Soghla Göl could be drained, and 60,000 out of the 80,000 dönums in the contract were assigned to the Konia plain, while it was hoped to irrigate 20,000 dönums round the shores of the Soghla Göl.

A barrage has been constructed at the outlet of Beyshehir Göl, to regulate the flow of water into the Beyshehir Irmak. The Beyshehir Irmak has a course of some 80 or 90 kilometres. Its course has been cleaned and straightened, and the banks strengthened. At km. 64, a canal (the 'Junction Canal') takes off, and passing along the northern shore of the Soghla Göl, joins the Balyklavu canal. The Junction canal is 32 kilometres long. In time of rain, surplus water is diverted by sluices into Soghla Göl.

At Serai, near the eastern shore of Soghla Göl, a barrage has been constructed, which controls the outlet from the lake. From here to below Balyklavu reaches a canal 20 km. long, and a further canal, 30 km. long, has been cut through the gorge to the point where the Siristat Chai enters. Thereafter the water from Beyshehir flows in the channel of the Charshembe river, which has been cleaned and strengthened.

Not far below Appa Serai, No. 1 main distributing canal takes off; here there is a barrage with regulating sluices. Near Tavshan Köprü this canal is carried across the Charshembe Su in an aqueduct of reinforced concrete, and then runs west of north, passes under the Baghdad Railway 9 km. from Konia, and ends in the plain east of the town.

A little north of the point where the Baghdad Railway

crosses the Charshembe Su, a barrage has been constructed across it to hold up the water for the intakes of main distributing canals Nos. 2 and 3.

Canal No. 2 runs to the east, and irrigates an area stretching down towards Kara Dagh.

Canal No. 3 runs for a short distance parallel to the river, and then turns north.

At a point some 6 miles east of the railway, the Charshembe Su divides into three channels, which have long been used by the natives for irrigation, with a native stone barrage above the junction regulating the discharge. Beyond the area irrigated by this native system there is much land suitable for cultivation, but the native system used up the water. A masonry barrage was therefore constructed by the Baghdad Railway Company up-stream from the native barrage, and a canal is led off towards the north, to irrigate a further area.

Egerdir Göl

The lake of Egerdir extends from north to south for 30 miles. A promontory on the western bank, thrown out by the mass of Borlu Dagh, approaches to within a mile and a half of the eastern bank, cutting the lake into two separate basins. The northern and smaller basin is called Hoiran Göl, and the larger Egerdir Göl proper. The distinction was similarly recognized in the ancient Greek name *Limnai*, or 'The Lakes'. The southern part of the lake is 10 or 11 miles wide. It is shut in by high mountains, falling steeply to its shore except on the southern side, where there is a fertile cultivated valley, and on the north-east, where the lake leans against the fertile valley of Yalovach. The lake is rich in fish. Its outlet is the Boghaz Su, which forms many *düdens* before it reappears as the Koghade Göl on its way to the Mediterranean.

Ak Shehir Göl and its Affluents

The Ak Shehir Göl is similar in character to the Ak Göl west of Eregli, except that here there is no record of an underground exit; but such must exist, as so large a quantity of

drainage cannot be kept at a low level by evaporation only. It fills the lowest part of the depression of Phrygia Paroreios, lying 6 to 10 miles north of Ak Shehir, and into it flows the drainage of the whole valley from the rim of the plateau west of Afium Kara Hissar to the ridge separating the plains of Ak Shehir and Ilghin. For some miles east of Afium Kara Hissar, the Akar Chai flows within its banks, but in the neighbourhood of Chai it opens out into a marshy area which covers most of the plain as far as Ak Shehir Göl. The centre of this marshy area has the character of an independent lake, and is called Eber Göl. In the rainy season, the level of the Ak Shehir Göl rises, and the whole of this area, for some distance to the west of Chai, is frequently under water.

The Akar Chai drains the southern slopes of Emir Dagh, and the valley of Chifut Kassaba (see p. 95). It enters Ak Shehir Göl at its western end.

On the south, the Ak Shehir Göl receives an affluent (the Yusuf Yilan Chai) which drains the slopes of Sultan Dagh as far as Doghan Hissar, and is fed by a large number of brooks which fertilize the valleys of the mountain side.

The lake itself is marshy round its edges, and is hidden by tall reeds, except at its north-western corner. There is a certain amount of fishing on the lake.

Chaushjy Göl and its Affluents

North-west of Ilghin there is a lake, cut across the middle by a marshy belt, which is fed by two streams similar in character to the Yusuf Yilan Chai, the Arkut Khan river, and the Ilghin Su. A road shown on the maps crossing between the two halves of the lake can seldom be practicable, as the area dividing them is very marshy. The valleys of the two feeders of Chaushjy lake are very fertile.

The Rivers of the Mountains West of Konia

These streams have a uniform character, and can be described together. Most of them are mere intermittent torrents which come to life only in the wet season, when they

flood the plain at the foot of the mountains. Permanent streams are : (1) The river which flows from east of Ilghin to Kolu Kissa, to meet another permanent stream from the neighbourhood of Serai Önü. How far north this stream extends into the plain is not known. (2) The Bashara Su, which waters the vicinity of Konia, and turns a desert into a garden. (3) The river of Khatyn Serai and Kavak, which is shown on the maps as joining the Charshembe Su, but almost certainly flows independently till it loses itself in the plain near Ali Bey Hüyük.

Tuz Göl

The great salt lake, called Tatta Lacus by the Romans, lies at the bottom of the Lycaonian depression. Tested by its superficial area, it is the largest lake in Asia Minor, but it is very shallow, and does not contain so much water as the Beyshehir Göl. It is roughly oval in shape, extending from north-west to south-east. Having no outlet, the water of the lake is salt, and when the water evaporates in the summer, a thick crust of salt is formed round the edges of the lake, and exploited by the Turkish government. The water of this lake is said to contain 33·2 per cent. of salt, as compared with 21·7 per cent. in the Dead Sea.

Into the Tuz Göl run many watercourses, coming from all directions ; the most important is the Beyas Su, which drains a large area north of Hassan Dagh, and has a perennial flow. The springs which rise in the neighbourhood of Sultan Khan, the Insuyu, and the stream from Koch Hissar are the next in importance. The volume of water, and the extent of the lake, increase and decrease with the season. It reaches its greatest extension in March and April, when the whole basin is filled, and marshes extend around it, especially on the southern side. In the summer months the level gradually sinks till in October there is water only in the deeper parts towards the southern end. As the water recedes, it leaves a thick crust of salt, which is cut into blocks and loaded on camels.

While the remaining banks are perfectly flat, a low ridge of red sandstone rises up on the eastern side. In the northern part of the lake, a peninsula juts out from the west. Here there is a causeway over the lake, built by Sultan Murad IV in 1639, which can still be used when the water is low. This causeway carried the old road, now completely disused, from Afium Kara Hissar to Koch Hissar.

CHAPTER II

GEOLOGY AND MINERALS

Geology—Metallic minerals—Non-metallic minerals.

Geology

The geology of Asia Minor is complicated and, in some parts imperfectly known; but a general sketch can be based on reports by German experts who have recently studied the districts opened by the Anatolian and Baghdad railways and the railway lines in the west.

The whole area, in early geological ages, formed part of the great east and west belt of sea between the Palaeozoic continents to the north and to the south of Asia, long submerged and covered by successive deposits, with only minor local elevations until the middle of the Tertiary period. At that epoch began the great movements which created the east to west mountain-ranges from the Balkans to the Himalayas. These ranges crossed the area which was to become Asia Minor, opening out, around its centre, into two main lines: a southern chain running from Greece and trending southward through the Taurus to continue north-eastwards towards the Armenian and Persian highlands; and a northern chain running from the Balkans, trending northwards through the heights to the south of Sinope, and curving south-eastwards and north-eastwards towards Ararat. Between these two chains a space was left undisturbed; this became the central plateau of Asia Minor.

Later in the Tertiary age, along the weak lines at the edges of these folded zones of elevation, volcanic outbursts threw up great masses of igneous material. The most important of these volcanoes, now extinct though their activity was long continued, follow the inner or north-western edge of the Taurus, from

Kara Dagh to Erjies Dagh ; but they can be traced round the central plateau, and reappear also on the external edges of the main mountain-chains as, for example, at Ararat and to the south-east of Amanus.

The central plain thus became a land-locked basin, filled with great lakes, in which freshwater deposits were laid down ; but the general forms of land and sea were not yet delimited, and Asia Minor was still a part of a more extended area of elevation.

At the end of the Quaternary period great settlements of the whole region took place. The central plain subsided and was fractured ; its mountain-walls were broken, and its lakes were partly drained through gorges opening out the chains to north and south. Around the exterior of the enclosing ridges weak lines gave way, and the surface to north, south, and west of Asia Minor sank into the sea, forming the coast-lines of the Black Sea, the eastern Mediterranean, and the Aegean, in which the highest summits of the ridges remained as islands. At the same time many of the features of mountain and valley, especially in the west, were sketched by earthquake-fracture, to be modified by erosion into the present surface-modelling of the country.

The mountain-ranges, elevated at a late epoch, and greatly disturbed by intrusions and subsidences, show a remarkable variety of formations, especially in the southern zone, which includes Taurus, Antitaurus, and Amanus with the Kurd Dagh as the last wave in the system.

In west-central Taurus the chief summits of Aidost and Bulghar Dagh are formed of carboniferous limestone in which the Pass of Gülek Boghaz or Cilician Gates (on the south-eastern slope of this range) is cut. On the north-west, near the ore deposits of Bulghar Maden, nummulitic limestone appears ; and on the north-east, at Kyzyl Tepe, underlying Silurian slates, porphyrites, &c., crop out. To the east Devonian and Carboniferous reach a great thickness ; the summits of Hajin Dagh, Ak Dagh, and Ala Dagh are built of massive and cleaved limestone of the upper chalk, resembling

Tyrolese dolomites; and through these the gorge of the Chakyt is cut. The foothills of Taurus are of lower Miocene marine limestone, varied towards the coast with clays and marls; these appear to have been laid down by a recurrence of the sea in the mid-Tertiary age, when the coral-rag, sandstone, and conglomerate of the Cilician plain were laid down. It may be noted that the Trias, Lias, and Jurassic have not been found in the Taurus, suggesting a gap between the Carboniferous and the chalk, and giving this range, in its first stage of elevation, an earlier history than can be claimed by neighbouring chains of mountain.

Antitaurus represents the folded and shattered remains of Devonian and Carboniferous strata overlaid with the upper chalk, as in the Taurus. Its axes strike north-eastwards, connecting with the mountain-folds running on towards the uplands of Ararat, which are of similar structure and formations.

In the Amanus (Giaur Dagh) the underlying beds are also palaeozoic. The thick schists pierced by the Baghche tunnel contain quartzite reefs and fossil forms parallel to the lower Silurian of France. The depression between the Giaur Dagh and the Kurd Dagh (connected with the great Syrian depression) is filled with eruptive rocks, of which the oldest (near Islahie) are of late Tertiary or Quaternary age. It is probable that the marshy valley of the Kara Su owes its partly landlocked character to recent eruptions of lava, barring the outlet of its waters.

The Kurd Dagh appears to be the latest section of the Amanus group of elevations; it consists of limestones and interspersed marls of the upper chalk, with serpentine and haematite deposits.

The northern zone of ranges is divided into two dissimilar parts by the lower Kyzyl Irmak valley. The eastern section receives its importance as a rampart from the subsidence of the land north of it forming the basin of the Black Sea, but its valleys, at right angles to the coast, are true erosion-valleys, not subsidence-fractures; and it is rich in

reefs of ore, while west of the Kyzyl Irmak the continuing ranges are comparatively poor. On the other hand, in this western section, there are important deposits of anthracite near Eregli, and the character of the hills and valleys has been determined by subsidence and fracture in the settlements of the late Quaternary period.

The western ranges show this fractured character still more distinctly, as well as a difference in formations similar to that between the west and the east in the northern chain, separating their southern groups from the Taurus. Lycia with the south of Karia forms a rough mountain region of mesozoic and old Tertiary rocks, with lines of fissure crossing from Greece. North of this region a mass of early crystallines (gneiss, granite, mica-schist in the interior, and marbles and semi-crystalline limestones on the western and southern borders) stretches inland from the Gulf of Kos throughout Caria and Lydia. A similar but less marked chain of palaeozoic, mesozoic, and old Tertiary deposits, interspersed with crystalline schists and eruptive rocks, runs from the Erythraean peninsula west of Smyrna through western Mysia to the Sea of Marmara. The subsidence-depressions between these are filled with Tertiary and Quaternary deposits, and the geological character of the whole western coast connects it, physically, with Greece.

Mineral Wealth

General

Asia Minor has always had the reputation of great mineral wealth. The riches of Croesus, the tale of the Golden Fleece, and the better authenticated data of the Roman period still set men dreaming of mining enterprise. The inhabitants of Asia Minor see gold and silver hidden under every shining outcrop or pebble. The native prospector is a familiar character in Anatolian towns and villages ; every traveller has been offered the secret of the provenance of a shining chip or a bit of ore—for a price.

But even if many of the finds are valueless, yet in modern

times many productive mines have been opened ; it is necessary to refer only to Balia Maden in Mysia, Arghana Maden south-east of Kharput, and the coalmines of Zunguldak. Lack of transport, a defective knowledge of the geology of the peninsula, and the difficulties incidental to obtaining a mining concession have hitherto stood in the way of full exploitation.

Metallic Minerals

Chromite.—The most important ore found in Anatolia is chromite, which always occurs in serpentine formations. The deposits are so rich that it is said that Asia Minor could supply the world's markets with this mineral for an indefinite period.

The known deposits are found in three districts :

1. On the north-west near Mount Olympus in the vilayet of Brussa.
2. In the south-west, in the vicinity of Denizli and Makri.
3. In the south-east, round the Gulf of Alexandretta.

1. West, south, and south-east of Mount Olympus as far as Eskishehir, and in the Porsuk Chai valley veins of chromite are met with, often broken by faults. There are reported to be more than 120 separate deposits, the most important being that near Daghardy which is said to be the largest in the world and estimated at 10,000,000 tons. Analysis shows 51–55 per cent. Cr_2O_3. Statistics show that up to the beginning of the present century the yearly production of ore was from 12,000 to 15,000 tons, valued at about £400,000. The total production of Asia Minor in 1907 was 28,860 tons.

A mine at Bozbelen (in the sanjak of Inegöl) has a yearly output of about 1,500 tons. At Ateran, Kozlunja, and Miram in the sanjak of Brussa there are three mines with a yearly production of 6,000 to 7,000 tons shipped from Gemlik mainly to Britain and the United States. The pre-war price was 36*s.* per ton, and analysis gave 52·70–54 per cent. Cr_2O_3.

2. There are six mines in the Denizli–Makri group (analysis =55 per cent. Cr_2O_3 roughly). A French mine near the Gulf of Adalia has been abandoned.

3. The south-eastern district belongs to the serpentine zone

of Cilician Taurus and Amanus, and begins with a deposit at Guara in the Lamas area (analysis = 53 per cent. Cr_2O_3). It also includes the mines at Lamas (analysis = 50 per cent. Cr_2O_3), the deposits in the Alvanly district, e. g. on the Tommak Chai between Ilamyn and Elbisik (analysis = 53 per cent. Cr_2O_3 roughly), near Beilan and north-east of Alexandretta on Amanus or Giaur Dagh. Another mine is situated between Gözne and Mussaly above Mersina.

Chromite has also been found near Ineboli.

Iron.—There are in many districts deposits of different kinds of iron-ore, chiefly brown and red iron-stone and pyrites. Owing mainly to difficulties of transport only a few of these have hitherto been worked. Among those which are exploited the most important are the Sakar Kaya mine on Beshparmak Dagh in the Aïdin vilayet, the ore of which contains 60 per cent. of iron, and the Alaya mine in the vilayet of Konia which produces iron of very fine quality (64 per cent. of iron). Haematite with an iron content of 50 to 54 per cent. is also found in these mines.

The most favourably situated deposits in the vilayet of Brussa are those in the Bazar Köi–Gemlik district, distant only 3–5 hours from Gemlik. They had not been worked up to 1916. The ore is not of first-class quality, to judge by analysis hitherto made. It is a siliceous red iron-stone, containing one-third red iron-ore and two-thirds barytes. A hill formed by an outcrop of the ore measures about 85 by 40 yds. Numerous slag heaps near the Armenian village of Sölös and in other parts of the vilayet show that deposits were extensively worked in ancient times.

In the neighbourhood of Trianda near Torbaly, about 2–2½ miles from the Ottoman railway, is the Fortuna mine. Up to the present ten seams, embedded between micaceous schist and crystalline limestone, have been discovered, varying from 12 to 80 ft. and upwards in thickness. The capacity of the deposits above a depth of 300 ft. has been estimated at 10,000,000 tons, the total thickness of the seams being 385 ft. Manganese is present in some of them.

Analysis gives the following results :

		per cent.
1.	Fe_2O_3	93·60 (Fe 65·52)
	Mn_2O_3	0·00
	P_2O_3	0·02 (P 0·0087)
	SiO_2) Al_2O_3)	3·60
	Loss in firing	2·60
2.	Fe_2O_3	86·00 (Fe 60·20)
	Mn_2O_3	2·80
	P_2O_3	0·05 (P 0·022)
	SiO_2) Al_2O_3)	0·80
	Loss in firing	10·30

The ores contain a greater or less percentage of arsenic ; some samples are said to show 0·32–2·05 per cent.

Iron-ore has been noted between Zara and Kara Hissar in the vilayet of Sivas, and at Unie in the vilayet of Trebizond.

The deposits in the Beirut Dagh, some hours north of Zeitun, are difficult of access and for that reason have hitherto not been worth exploitation. The inhabitants of Zeitun and neighbourhood, however, have been permitted by the Government to mine the ore without tax and sell it in Aintab and Marash as well as to find a market for it at the furnaces of Khermejenj, about a day's journey distant.

There are excellent prospects for the development of red iron-stone deposits between Alexandretta and Baghche within reach of the Baghdad railway. The extent of the cretaceous limestone here, in the Giaur and Kurd Dagh area, implies the presence of red iron-stone with high iron content. Numerous traces of this ore have been observed in the gravel strata between the monasteries of Ekbez and Sheikhli and between Karababa and Missaka. Farther north also, near Herakly, there are extensive indications of this high-grade ore in the detritus foothills bordering the plain.

Deposits near Payas have been estimated to contain possibly 10,000,000 tons. The best of these show an analysis of 60 per cent. metallic iron, the less valuable 45 per cent. It seems probable that this ironfield at Payas is geologically related to that in the interior in the neighbourhood of Islahie.

The following estimate has been given of deposits near Alexandretta :

	Ore, million tons.
1. Arydere-Guzgundere field	1–1½
Sarpdam-Fyndykly field	2–3
Total	3–4½
2. Pach Airesi-Nevkesi field	1–2
Total	4–6½

Two kinds of ore are distinguishable in these fields—black and red. The black variety is very hard and largely brittle, the red softer, with a considerable percentage of high-grade metal. The former shows roughly 60 per cent. of iron and about 5 per cent. of silica, while the other gives about 54 per cent. of iron and 15 per cent. of silica. In the second case the iron content is lowered by a loss of about 5 per cent in firing to which the black ore is not liable. Both ores are free from such foreign substances as arsenic, chrome, and copper, and sulphur is not present in any quantity. The proportion of phosphorus varies from 0·3 to 0·6 per cent. and occurs chiefly in the black ores.

The latter are found chiefly in the deposits at Arpyderesi, Sarpderesi, Kyzyl Bunar, Kyzyl Hashyly, Fyndykly Dere, Pach Airesi, Demir Oluk Deresi, and also at Fyndykly Nevkesi.

The export of iron ore from Turkey was increasing rapidly before 1911. It rose from a negligible quantity in 1905 to 10,000 tons in 1909, and 50,000–60,000 tons in 1910.

Manganese.—Numerous deposits of this ore are found in Anatolia, especially in the Smyrna and Makri districts. It is reported that in the year 1904 alone open workings were begun at 38 deposits in the Smyrna area. The output of the mines at Hassan Chaushlar (45 per cent. Mn), Yenije Köi, Karja (51 per cent. Mn), and Akche (50 per cent. Mn), totalled 1,000–1,500 tons about the beginning of the century.

About the year 1900 samples showing 50 per cent. Mn were taken from the Mendoz mine near Makri and from the neighbourhood of one of Patterson's chrome mines.

Manganese is also found (along with chromite) in the Alvanly district near Mersina. In eastern Anatolia the Per Asis mine near Kerasund was opened at the beginning of the century and gave an output of 400 tons. There are mines near Ordu, and others used to be worked near Tireboli.

Lastly, manganese ore is found along the Marmara coast, near Sabanja, at Sach Köi 10 miles south-east of Gemlik, and at Balia Maden.

According to figures of 1908 the production of manganese in Anatolia in that year amounted to 14,131 tons.

Gold and Silver.—There are few details regarding gold in Anatolia. The Cremaste mine in the Troad shows signs of ancient workings and seems to be valuable. There are also some veins in the Smyrna district (along with silver) at Arab Özü and on Chilek Dagh, but no information is available regarding them. The total output is small (but see also next section, *Arsenic*).

Details for silver are also scanty. The total output is roughly equivalent to £40,000 and is got chiefly from galena ore. Silver is said to have been found at Fundajak about 6 hours south-west of Marash. The deposits at Gümüsh Khane between Trebizond and Erzerum are no longer exploited since the cutting down of the forests to make charcoal.

Veins of quartz containing iron, copper, silver, gold, and platinum are known to exist near Simav.

Arsenic.—Arsenical pyrites is less valuable for arsenic than for the amount of gold it contains. It is found particularly in the vilayet of Aïdin, south of Tire. The Beyler Baghche mines at Alajaly west of Tire also produce emery.

Veins near Ödemish show on analysis a gold content of from 8 to 190 gr. per ton of ore. One mine on Omur Baba Dagh shows 20 to 160 gr. of gold, and another 10 to 120 gr. The China mine is said to give 1·24 to 1·55 kg. of gold per ton of ore and 35 to 42 per cent. of arsenic.

Mercury.—There is a vein of cinnabar 50 to 80 ft. thick in schist and quartz situated about 1 mile east of Elibler village, 40 miles south-east of Smyrna. Traces of quicksilver

are also found in a number of the adjoining ravines. The deposit has not yet been thought worth developing.

Veins containing cinnabar have also been found at Haly Köi about 70 miles ESE. of Smyrna. Other mines are those of Kara Kilisse and Cham Köi. The information available regarding these deposits indicates a high percentage of quicksilver, varying from 1 to 18 per cent.; they have, however, only been worked for a short period.

Other cinnabar deposits are those near Cheshme, below Monastir village, the Karaburun mine (the output of which, in the year 1906–7, amounted to about 3,000 jars), and the mine at Syzma near Konia (the ore of which contains 1–2½ per cent. of quicksilver).

Copper.—The most important copper-ore region is the south-east. The mines at Arghana Maden have long been known, and in spite of their unfavourable situation have in the past had a considerable output. About the beginning of the century some 1,500 tons yearly were exported via Alexandretta to Britain. This output appears to form the greater part of the total export of copper from Turkey. The copper pyrites is extremely rich, containing, according to one authority, 13–14 per cent. and according to another 30 per cent. of copper (with 40 per cent. of iron). Until recently the ore was sent by camel caravan for smelting to Tokat, a distance of 250 miles. This was owing to the fact that all the fuel at Arghana had been used up.

In the western district are the mines of Bulbudere and Assarly which were worked in ancient times. The output hitherto has been small. Copper ore is also found at about 4 hours distance from Adalia (copper percentage 20), and there is said to be a deposit of pyrites 30 ft. thick with a rich percentage of copper near Hairie village 28 miles ESE. of Brussa. There are considerable copper deposits in the neighbourhood of Küre south of Ineboli, Tireboli, Kerasund, and Trebizond. One authority mentions rich copper deposits near Tokat, Sivas, and Yildiz, and between Zara and Kara Hissar.

Zinc.—Zinc ore is found at Balia Maden, Menteshdere, Kirasly Yaila, between Iznik and Yenishehir and at 6 miles north of Bergama. At the place last mentioned and at Balia Maden it occurs in the form of calamine. It is frequently found associated with lead ore.

Lead.—The usual rule that only argentiferous lead can be worked at a profit applies also to Anatolia. The ore is found associated with zinc, antimony, or copper ores.

Three main lead-producing areas may be distinguished :

1. The western area containing the mines of the Laurion Company at Balia Maden and Menteshdere and those at Gumuldur, Bayndyr, Yulas, and Karalar in the vilayet of Aïdin. The ore of the Gumuldur mines shows a composition of 10–45 per cent. lead, 15–52 per cent. zinc, and 1·5–2 kg. silver per ton.

Mention should also be made of the Avjylar field not far from Edremid. Galena, zinc-sulphide, and pyrites are found here, with an occasional admixture of copper pyrites, but have as yet not been developed. Samples show the following analysis :

	Pb.	Cu.	Ag.
Per cent., sample *a* . .	7·7	0·14	37·5
„ „ *b* . .	27·5	0·42	31·0
„ „ *c* . .	56·3	0·72	31·0

2 The southern area including mines near Adalia (analysis 77 per cent. lead, 974 gr. silver per ton), deposits between Anamur and Kilindria, and the mines worked since ancient times on the southern slopes of Bulghar Dagh. There are outcrops of ore at Maden Tepesi, a spur of Ala Tepe, the lead from which is smelted at Gülek. Galena is found here, mainly on the northern slopes of the mountain.

3. The eastern area covers the vilayets of Sivas and Trebizond, and in the latter case particularly the districts of Unie, Ordu, and Kerasund. This district is of less importance than the other two and has as yet not been developed to any extent.

Besides those above mentioned there are a number of

seams on the Cham Dagh north-east of Adabazar and deposits near Kara Su farther north.

The most important mines are those at Balia Maden and Karaïdin. The ore is reported to contain 82 per cent. of lead and 1·25–4 per cent. of silver. The mines employ 500–600 workers, largely Greeks, and the total yearly output of ore is said to be roughly 60,000 tons.

Antimony.—Antimony ore is found mainly in the west, but also in the vilayets of Sivas and Trebizond. It is worked in places. The available statistics are very unreliable.

The Chinlikaya mine, which seems to be the most important, is situated about 12 miles north-east of Ödemish on the north-western slope of the Baliamboli Dagh. The thickness of the seams varies from a few inches to several feet and the yearly output is said to be 2,000–3,000 tons of ore. There are also mines at Alkhar near Aïdin which at the beginning of the century sent 260 tons yearly to Smyrna. Others, such as the Kordelia and Keramos mines, have a smaller output or have been abandoned. A report of 1901 states that at that time two mines at Ivrindi and Demir Kapu in the sanjak of Karasi had been worked for some years and had a combined output of from 200 to 250 tons per annum. The exports of antimony ore from Smyrna vary considerably (1899 = 848 tons ; 1901 = 241 tons).

Addenda on metal-ores in the Pontic area.—In ancient times a great deal of mining was carried on in this region but detailed statistics of deposits are lacking. Some of these have already been referred to and the following general summary may be given here :

1. Ore containing silver-bearing galena, copper pyrites, zinc-sulphide, and pyrites is found at Yol Maden, south-west of Trebizond, Yakajak, south of Ordu, the district immediately west of Kerasund and another further distant on the east (Seraijik–Osmanie) and the hinterland of Kerasund. To the last-mentioned belong the Sis Orta field on the upper course of the Ak Su and the numerous veins in the neighbourhood of Kara Hissar (Lijesi, Subakh, Katyralan).

2. Veins with a mixture of galena, zinc-sulphide, copper pyrites, and a small amount of gold occur at Eseli, Sade Kure, and Ak Köi. To this group probably also belong the copper-bearing deposits of pyrites at Erseil, between Eseli and the Karshut Chai, as well as those behind Esbie Bay west of Tireboli.

3. Deposits of copper ore are found at Karaburk and Chöjen Maden near Eseli. With these should be taken the Gümüsh Khane field, in which silver-bearing galena also occurs.

4. Oxide deposits of various metals are found in different places in the vilayet of Trebizond

Non-Metallic Minerals

Emery.—The presence of emery in Anatolia has long been known. The chief fields are at Tire, Balachyk, Azizie, Kozpunar, Kuluk, Sokia, Alajaly, and Hassan Chaushlar, and lastly the Gümüsh Dagh. Only a few of these are exploited.

Three varieties of emery are distinguished, according to quality. The corundum contained varies from 40 to 57 per cent., except at Kuluk where it amounts only to 37 per cent. The total output constitutes a large proportion of the world's supply and reaches 17,000–20,000 tons yearly but is subject to great fluctuations. It is exported mainly from Smyrna and Kuluk.

Precious stones.—Opals from northern Anatolia came on the market some years before the war. They are found chiefly at Karamanja, about 2½ hours from Simav, a mine which was apparently worked in ancient and mediaeval times. The largest stone hitherto found weighs 192 carats, the largest after cutting 12 carats. In chemical composition the Simav opals contain less ferrous oxide than the Mexican.

Meerschaum.—This mineral occurs in the vilayet of Brussa in serpentine conglomerate. The mine-field lies near Eski-shehir, at Sepeji, Kemikli, and Sarysu Ojak and varies in depth. Near the Porsuk Chai the deposits reach a depth of 230 ft.

Meerschaum is less in demand now than formerly. Before the war most of it went to Vienna.

Pandermite.—This mineral is a calcium-tetraborate and closely allied to bromine-natrium borate (borax). It takes its name from Panderma, which is the place of export for the output of the best-known mines, those at Sultanshehir on the Susurlu Chai. After these mines were opened they produced about 200 tons of ore daily with 25 to 30 per cent. of pandermite. After 1903, however, owing to American competition, the yearly output fell to about 6,000 tons.

Fuller's earth.—There are deposits of fuller's earth over an area of more than 60 miles in the vilayets of Brussa and Angora. Those at Kilmaden in the vilayet of Angora have been leased at a yearly rental of about £T.14,000.

Marble.—Marble is found in the west, particularly at Maletji Köi, 40 miles south-west of Smyrna, and at Bazar Köi near Gemlik. There is also fine marble near Tokat.

Lithographic stone.—There are numerous deposits of lithographic stone in the north-west near the Marmara coast. It occurs at Kranlar Köi and Akche Koyan Köi north of Mikhalij, on the hills east of Kirmasti, at Dishkaya near Gemlik, and at Bilejik.

Sulphur.—Deposits of sulphur have been noted near Kale Sultanie on the Dardanelles, and near Allakten in the Aïdin vilayet. These have not been found worth exploiting.

Alum.—The alum mines at Shabin Kara Hissar are famous and have given their name to the town. They are four in number and the yearly output is estimated at 360 tons.

Rock-salt.—The presence of numerous salt springs and lakes is a sufficient indication of the wide distribution of rock-salt deposits in Anatolia. The salt has hitherto been a government monopoly. The chief salt deposits with their approximate yearly output are, Tuz Hissar in the kaza of Koch Hissar, Tuz Köi or Haji Bektash north-east of Nevshehir (1,850 tons), Maragash or Maghara near Changhry (2,500 tons), Tepesidelik near Kyrshehir (700 tons), Sekilo on the Delije Irmak (1,000 tons) and Chayan Köi near Sungurlu

(250 tons). In the neighbourhood of these deposits there are numerous brine springs e.g. in the vilayets of Sivas (8,000–10,000 tons), Angora (2,000–2,500 tons), and Kastamuni (4,000–5,000 tons). The salt-lakes of the central plateau deserve special mention. The Tuz Göl alone produces 20,000 tons.

Lignite.—Late Tertiary lignite is found in many places in Anatolia and, when free of sulphur, is coming to be more and more important in sparsely wooded districts.

In the vilayet of Aïdin about 2 miles north-west of Soma there is lignite which though soft is of good quality, in seams from 15 to 50 ft. thick. Briquettes are manufactured at the Yaryk Kaya mine. There are also fairly important mines at Sokia, Meriantepe, and along the edge of the Maeander valley.

At Manjylyk in the west Mysian country there is a mine belonging to the company which works the lead mines at Balia Maden. The lignite at Manjylyk is converted into electricity at the mine.

In eastern Anatolia lignite deposits exist on and north of the Tavshan Dagh near Merzifun, near Tokat, at Chemish Gezek and at Safranyk, in the Dersim, at Derstek and Shengyah near Baiburt. Some have also occasionally been worked near Nemrun about 12 camel hours from Mersina.

Owing to the impossibility of importing the usual supplies of coal the use of lignite was fairly considerable in Turkey during the war. A mine was opened at Lapsaki and in 1916 produced 30–40 tons daily, and in the same year there was an output of about 50 tons per day from mines between Bilejik and Eskishehir, the fuel being used for the Anatolian railway. The lignite in the second of these areas is free from sulphur and may be capable of further development.

Coal.—The only extensive coal-field in Anatolia which is as yet exploited is the Eregli–Zunguldak district. There are about 20 seams with an average thickness of 3–6 ft. One seam, at Chai Damar, is as much as 25 ft. thick. The coal is at present worked mainly at Zunguldak and Kozlu. The

strata in the field as a whole may be distinguished as lower, middle, and upper. In the lowest there appear to be 4 or 5 seams of fairly fine coal, in the middle strata such seams are more numerous and the coal is of better quality, constituting the principal wealth of the field, while the upper strata are earthy and sulphurous and have not been much developed. The total capacity of the coal-field has been variously estimated at 2,400,000,000 and 6,000,000,000 tons.

The following table gives the production of the principal mines in Turkey during the year 1908, the latest year for which such statistics are available. It must be noted, of course, that the table includes the production of the whole of the Turkish Empire, not merely that of Anatolia. But the bulk of each total refers to Anatolia.

	Tons.	£
Chrome	11,546	31,000
Iron pyrites	78,640	51,000
Manganese	7,578	10,000
Mercury	142	22,000
Copper	1,313	56,000
Zinc	16,830	26,000
Argentiferous lead, ingots	11,929	183,000
Emery	24,475	80,000
Meerschaum	5,895	40,000
Pandermite	11,221	76,000
Salt	—	1,229,000
Lignite	26,965	10,000
Coal	675,757	369,000

The principal mines and mineral deposits are shown on Map 3.

CHAPTER III

CLIMATE, FLORA, AND FAUNA

Climate—Flora : Northern Asia Minor ; The West and South ; The Central plateau ; Forests of Asia Minor—Fauna.

Climate

In Asia Minor, three climatic provinces are to be distinguished, which differ widely from each other :

(1) The North Coast or Pontic province, with excessive moisture all the year round.

(2) The West and South Coasts, with Mediterranean summer and winter seasons.

(3) The Central Plateau, characterized by aridity throughout the year.

All the circumstances of life and development which depend upon climate are in sharp contrast in those three areas.

(1) In the Pontic climatic province, which includes the edge of the Black Sea and of the Sea of Marmara, northerly winds are constant in summer and winter, blowing in summer towards Mesopotamia and in winter towards the Aegean and the Levant. These winds leave the Black Sea laden with moisture, which they precipitate on the northern mountain rim. The daily variations in temperature in this area are low, being modified by the proximity of the sea. In summer the temperature is not very high (mean temperature in Sinope 70° F., in Trebizond 74° F.), but the weather is damp and sultry. The winter is damp and cold and very snowy (mean temperature in Sinope 44° F., in Trebizond 43·25° F.). Hence we find in this region a belt of luxuriant vegetation, which is composed of middle European, Mediterranean, and endemic elements. The rainfall decreases from east

to west, where the transition to Mediterranean conditions begins.

(2) In western Asia Minor the gradual rise of the land allows the sea winds to penetrate a long way. They carry their moisture far into the country along the broad valleys which lead up to the highland, and therefore particularly in the winter months there is frequent heavy rain, amounting in the year to 23–27 inches almost everywhere. Moreover, the mountains bordering the central plateau return a large part of their rainfall, so that the moisture of the soil in the coast districts is comparatively large in spite of the small amount of summer rain. In the summer months the temperature is very high, but is generally modified by the proximity of the sea and often shows considerable variations in districts lying close together, on account of the differences in the surface of the land. Exact records exist for only a few places; Smyrna has a yearly rainfall of 25–26 inches, a maximum temperature of 110° F., a mean daily variation in temperature of 21·6° F., and a mean monthly variation of 37·8° F. Particularly in the south and south-west the winters are very mild. In Smyrna the coldest months are January and February and have mean minima and maxima of −0·4° F. and +67° F. Frosts are rare and generally so light and short that they hardly affect the vegetation. Snow falls sometimes but, at any rate in the lower altitudes, covers the ground for a short time only.

On the whole the climate of western and southern Anatolia is definitely Mediterranean and nearly resembles that of Greece and other parts of the Mediterranean area.

(3) The conditions of the interior are very different from those in the other two climatic provinces. The high wall-like mountain rim withholds most of the moisture coming from the sea. Only in the west, which is open, is there a gradual transition from the maritime to the continental climate, the damp sea winds here penetrating furthest inland. Eastwards the climate becomes progressively drier. Thus Phrygia has the relatively high rainfall of 13–20 inches per annum. Eski-

shehir, near the western edge of the Anatolian plateau, has 10–11 inches. Angora has only a little over 9 inches and Konia barely 7 inches.

There are no exact records of the distribution of rainfall over the different seasons, but it may be safely said that the summer is the driest and the spring the wettest period. In addition to the spring rains, there is a secondary rainy season occurring in autumn in the western and southern districts and in early winter in the north. The rains are generally of short duration, but often very heavy.

There is much over-clouding in winter but little in summer. There are no exact figures relating to conditions of temperature. In general it can be said that the summers are very hot, with temperatures of 86°–95° F., and sometimes more. On the other hand there is great cooling-off at night on account of the high altitude. Even in midsummer variations in temperature up to 36° and even higher have been observed. Spring is generally cooler than autumn, the reason no doubt being the presence of the snow which takes a long time to disappear. The winters are cold and often very snowy. In the east they are influenced by the cold which penetrates from Armenia and are therefore particularly severe. In the west the neighbourhood of the sea makes them milder. Exact observations are not available, but in the interior of Anatolia, long, sharp, and continuous frosts are not rare and the snowfall is often so great that places are entirely snowed up. In the mountain-chains on the plateau conditions are still more unfavourable. Although these do not for the most part greatly exceed 6,000 ft., yet snow lies on them until far into the summer in the higher parts and many of them are never entirely free of snow. The result is that their slopes and valleys are more damp in midsummer than the adjoining plateau.

In general it may be said that the climate of the central plateau runs to extremes, cold winters with snow and severe frost, dry summers with clear sky, heat intense by day, nights cool, giving a relatively low mean temperature.

Flora

Corresponding to the three climatic provinces distinguished in the preceding paragraphs are three main floral zones. Along the edge of the Black Sea a damp, sultry summer and a mild, rainy winter produce luxuriant vegetation, and so the whole of the north of Asia Minor, the Pontic area, from the south side of the Caucasus to the Bosporus, is one uninterrupted forest region.

The second floral zone covers the western part of the peninsula, the mountainous descent from the plateau to the Mediterranean, and most of the south coast. With the exception of a transition area in the north-west, the climate of this zone is distinctly Mediterranean, characterized in summer, the chief period of vegetation, by extreme heat coupled with drought, resulting in a typical Mediterranean flora. Except in the generally narrow strip along the shore, evergreen hard-leaved bushes, all native to the Mediterranean countries and mostly known as 'macchia' or 'maquis', flourish in the deeper, drier, and hotter spots, while in the higher, cooler, and damper places the forest comes into its own again.

The third zone is that of the central plateau. The vegetation here is strikingly different from that of the other two zones and has a distinctly continental character. Woods and bushes are almost entirely lacking, while the greater part of the country is dry, monotonous, treeless steppe.

Northern Asia Minor

As we have already seen, the whole north of Asia Minor from the Bosporus to the southern foot of the Caucasus forms one great forest region, the richest forest district in Turkey, which in spite of hundreds of years of destruction still contains a vast treasure of timber. These North Anatolian forests, as would be naturally expected from their large extent, are composed of many and varied elements, differing from those peculiar to the damp, rainy eastern district near the Caucasus, known as the Colchic Flora region, and from the

evergreen bush forests of the Mediterranean countries in the west. Further, the woods in the east, owing to the greater amount of rain, are very dense and luxuriant and become gradually less so towards the west.

In general the North Anatolian forest zone extends for about 50–60 miles inland, the limit in the south being the main ranges of the Pontic mountains which border the central plateau. Only in a few places where broad trough-valleys promote its extension, as on the lower courses of the Halys and Yeshil Irmak, does it force its way still further south. In the west the vegetation shows a gradual transition, and, still retaining many Pontic characteristics, does not exhibit the opener and looser Mediterranean formation till near the Sea of Marmara. The upper forest boundary lies, on an average, 5,200–5,500 ft. above sea-level, rises in the damp and warmer east to over 6,000 ft., and sinks in the west to 5,000 ft. The best-developed woods are mostly at a medium height, 1,300–2,000 ft. above the sea. In the low country they are often completely absent, and instead, except in the narrow coastal zone, there is often low deciduous bush, interspersed with meadows, fields, and villages. The lack of tall trees here is doubtless due to the fact that a forest once cut down anywhere in the neighbourhood of the Black Sea never grows up again, because the dense underwood shoots so thick and fast in the damp humus-covered ground, watered by frequent rains, that the young forest is quite choked by it.

Extensive unbroken timber-forests appear to-day chiefly at great heights, on steep hill-sides or in inaccessible valleys. Owing to the damp climate deciduous trees are the main growth, while conifers do not appear below 3,300–3,600 ft. The forests are mostly mixed, large patches of a single kind of tree being rarer. The commonest trees are beech, oak, plane, elm, lime, and maple; chestnuts and walnuts also appear, and box is sometimes plentiful. Wild forms of cherry and plum occasionally occur, and many kinds of fruits cultivated in Europe may have come originally from this district. In the

underwood hazel bushes are frequent, and hazel-nuts form an important article of export. In the east, the *Rhododendron ponticum* and the Pontic Alpine rose appear, the latter growing right down into the valleys, and even near to the sea. It grows in the form of a tree to a height of over 6 ft. and has large dark-green glossy leaves. Other plants are elder, bramble, wild rose, honeysuckle, and bladder-nut (*Lonicera* and *Staphylea*), with ferns and moss in profusion. Among creepers, which climb to the top of the highest trees, are ivy, lianas, smilax, clematis, and vines, forming impenetrable thickets, and as in the hot, damp, primaeval forests of the tropics, twining from tree to tree and from bough to bough.

Higher up the deciduous trees are replaced more and more by conifers, till only pines and firs remain, and under their thicker shade the undergrowth develops less freely, although plant-life, especially in mosses and lichens, is still luxuriant, both on the ground and up the tree-trunks. At a height of 4,600–5,200 ft., the forest becomes less dense, and the trees as a result of the rough Alpine climate acquire gnarled and distorted shapes. Finally the trees disappear, and meadows and pastures take their place.

The West and South

The characteristic vegetation of this region is maquis, that continuous bush-forest which grows throughout the Mediterranean regions and is distinguished by its thick evergreen leaves, which owing to the summer drought become hard and almost leathery. It comes down close to the sea and continues up to a height of about 1,000–1,300 ft., where it is gradually superseded by the deciduous timber forests which cover the upper slopes of the mountains.

In many valleys the maquis grows up to 2,000 ft. or even higher, but it is then interspersed with other plant-forms. It exhibits many variations in composition, appearance, and size. In the north-west decided Mediterranean characteristics are not present, and many Pontic elements are noticeable.

But in the central and southern west coast region there is great similarity with Mediterranean species, especially those of Greece.

Besides the macquis there is another form of growth peculiar to the low parts of western Asia Minor, known in Greece as ' Phrygana ', generally taking the form of low bushes and coppice, often bearing thorns, and growing in impenetrable thickets.

The chief shrub is the kermes oak (*Quercus coccifera*), a low, many-branched, almost stunted bush with hard, strong, prickly leaves. Other bushes are the holm oak (*Quercus ilex*), juniper (*Juniperus oxycedrus*), jasmine (*Jasminum fruticans*), pistachio (*Pistacia terebinthus* and *lentiscus*), strawberry tree (*Arbutus andrachne* and *unedo*), brier (*Erica arborea*), laurel (*Laurus nobilis*), myrtle (*Myrtus communis*), various kinds of rock-roses (*Cistus villosus, laurifolius, salviifolius, creticus*), and many others. They all grow together in dense clumps far over the mountain-slopes, their pale blossoms showing up strikingly against the dark-green foliage.

The maquis has a peculiar smell, especially noticeable in still, calm weather, when the sun blazes down from a cloudless sky. Some varieties, particularly oaks, juniper, and rock-roses, in places entirely dominate the vegetation, so that definite types can be distinguished.

The description of the maquis of Asia Minor would be incomplete without mention of the watercourses which often run through them and on whose banks the coppices spring up. Here are almost always to be found oleander, tamarisk, and several kinds of liquorice. Various deciduous copses also appear among the maquis, e.g. Christ's thorn (*Paliurus aculeatus*), which occasionally appears in the lowland, and not only on the steeper hills, but also in the valley bottoms. It is generally found in single, cone-shaped bushes on barren, stony ground, and sometimes forms the only vegetation.

Other deciduous shrubs growing fairly low down and mixed with the evergreens are *Celtis australis, Quercus lusitanica,* and *Cotinus coggygria.* The deciduous species,

specially the Christ's thorn, become commoner on the higher levels, and at about 1,000 ft. the transition is reached, as in other Mediterranean districts.

Forest trees play a very small part in the region of the maquis. Quite close to the sea, in the brackish meadows and marshes, small clumps of the sea-pine (*Pinus pinaster*) are found, but they cannot be called woods, and further inland, at any rate in the low parts, there are none. They probably once covered much larger stretches, but were cut down to make room for pasture-land; and as their reappearance was prevented by the dry hot climate and lack of good soil, they were probably replaced by the maquis which did not grow there originally. How far this theory can be applied is not certain, but there is no doubt that primary and secondary maquis exist here as in other Mediterranean lands.

In the other and smaller isolated clumps of forest near the coast are found *Pinus halepensis*, junipers, and a few oaks, and occasionally chestnuts and *Pinus pinea*, but they are never good specimens. Extensive deciduous forest appears within the maquis zone only in the remote and sparsely inhabited south, in the damp warm river-beds. The *Liquidambar orientalis*, from whose bark a balsam is obtained, is found in this moist southern region.

Over much of the cultivable area of western Anatolia, of course the maquis has to give way to cultivated plants and trees. Among the trees to be found here, besides the olive, which often takes the form of a forest tree, is one as characteristic of the Mediterranean lowlands as the maquis, namely the cypress (*Cupressus sempervirens*). Its slender column-like form appears everywhere, as Mohammedans like to plant it in their graveyards, where cypresses often form regular groves.

As has been pointed out above, in the low-lying parts of western and southern Asia Minor small forest groves are only occasionally found in shady, damp gulleys. Larger continuous woods do not appear until 1,600–2,000 ft. up the mountains, where they can thrive on account of the greater

moisture and stand a chance of preservation owing to the lack of inhabitants, and where, above all, they are less influenced by the sea climate and the rampant maquis. The average height of the upper boundary of the forest in the west is 5,200–6,200 ft., but in the warm south is 7,900 ft. The forest zone extends inland to an average breadth of 50–60 miles, but in several places, as for example in Cilicia and Pamphylia, where damp sea-breezes can blow up through great gaps in the mountains, it reaches as far as 140 miles.

The transition from the evergreen bushes to the mountain woods is of course gradual, and often no sharply defined line can be drawn. There is generally a transition formation composed of elements of both zones, specially wide in the north-west, but narrower in the south and south-west.

Individually the woods vary considerably, those under Pontic conditions in the north-west being quite different from those further south. The increase of moisture from the Black Sea and the Sea of Marmara, and a colder climate with frequent snow in winter, produce Pontic elements which cannot survive in the south, e. g. great luxuriance of plant life. Only on the sides of hills facing south or south-east do the evergreen maquis and cypress and olive groves indicate the proximity of the Mediterranean. The transition from Pontic to Mediterranean vegetation often takes place almost imperceptibly. The undergrowth of the north-western transition is very thick, and of very varied composition, as the forests are mostly mixed (although in Mysia there are also often patches of one kind only) with deciduous trees predominating, mainly oaks, maples, beeches, planes, limes, elms, &c. The most common are *Quercus sessiliflora*, *pedunculata*, *cerris* and *iberica*; *Acer campestre*, *monspessulanum*, *tartaricum*, and *hyrcanum*, and lower down, between 1,000 and 2,300 ft., chestnut, walnut, and *Juglans regia*, with beeches towards the north above a height of 2,600 ft., and also much lower. Other trees are *Carpinus betulus* and *orientalis*, *Ulmus campestris*, *Quercus lanuginosa*, and in damp places alder, hazel-nut, berberis, ilex, bladder-nut, *Staphylaea pinnata*, *Euonymus latifolia*, guelder

rose, senna, woodbine, cornel, flowering ash, styrax, and quantities of creepers, ivy, and clematis. Mistletoe and *Arceuthobium oxycedri* appear as parasites. More rare are tree-forms of terebinth and hawthorn. Firs appear first in the north-east, and pine-woods in the south-west region of transition to the Mediterranean zone. Planes are more striking for their size than their number: they generally grow in damp valleys, often with thick trunks. They are often planted singly in pastures for the sake of their shade. Elms are also planted near villages for the same reason, and grow to gigantic dimensions.

Unfortunately large areas of north-west Asia Minor have been deforested. The huge districts of impenetrable forest suggested by the frequent name *aghach denizi* (sea of trees) no longer exist, and fresh growth is prevented by various causes, especially cattle-breeding. As the natural crust of earth gradually disappears from the cleared parts, stony patches, often covered with most variegated flora, have been laid bare in the forests. Besides many varieties belonging to the mountain forests, in the lower parts there are several plants and shrubs of the maquis region, and higher up stray inhabitants of the central plateau and many common weeds. Consequently every possible kind of plant may be found on these stony patches, forming a gorgeous display in summer, but of no kind of economic value.

In contrast to the mountain forests of the north-west those of the west, south-west, and south are opener and more park-like in character.

Moreover, mixed forests are rare. As a rule all are either deciduous or coniferous. The latter consist chiefly of *Pinus halepensis* and *laricio* interspersed with *Juniperus drupacea* and *oxycedrus*, both characteristic of the mountains of southern Anatolia, and *Abies pectinata*, with larger or smaller forests of *Pinus pinea*. The deciduous forests consist almost throughout of oaks, especially *Quercus aegilops*, also *cerris* and *calliprinus*, and less often *infectoria* and *coccifera*. The *aegilops* or valonia oak, very common in Phrygia and the hinterland of Smyrna,

is especially important on account of its gall-nuts—rich in tannin—which are used for tannery and exported, so that the inhabitants spare these woods when possible. The openness of these oakwoods is most striking. The trees, generally growing quite low, stand far apart, and the hills look as if they were only dotted with them. The scenery is quite different from that of the north-west. The ground is covered with grass and shrubs, but no underwood grows beneath the oaks. Although the vegetation is scorched in summer and autumn, yet cattle graze fairly regularly, and there are patches of ploughed land between the oaks.

The pinewoods are found, particularly on the south coast, on the upper slopes of the mountains. Taken together they form large tracts of forest, for the moist sea-winds, especially in the cold season, break in rain on the mountains and facilitate their development. The highest rainfall occurs in the west, where consequently the vegetation is most luxuriant ; towards Cilicia and the east the moisture decreases, as the island of Cyprus counteracts the effects of the sea. Here, then, the woods are poorer and consist almost entirely of conifers, cedars, pines, and firs, with few oaks, beeches, or maples.

The Central Plateau

The change in vegetation from the regions already described to that lying inside the mountain rim is very striking. The vast mountain forests diminish to a narrow belt, first of straggly pines along the ridge, and then of oak and juniper scrub, and then give way to bare monotonous plateau as far as the eye can reach. Rarely is there a tree or a shrub to be seen, and often for miles there is nothing growing higher than a few feet. Even the few ridges which traverse the plain, and the isolated hills which occasionally appear, are mostly only covered with low scanty brushwood, and are often quite bare, as the recurrent names Sary (yellow) Dagh and Boz (grey) Tepe indicate. The soil is usually limestone, covered, on the lower levels, with a layer of sand or clay. When even this is lacking the bare rock often extends for miles, strewn with

great rugged boulders. There is only occasionally a thin layer of mould in which plants struggle for existence and still more occasionally enough to nourish bushes or trees. Thus, on account of climate and soil the prevailing vegetation is that of the steppe, the dry desert-like character becoming more marked towards the east with the gradual decrease in precipitation. In south Phrygia, which by reason of the gaps in the surrounding mountain rim possesses the relatively high rainfall of 13–20 in. per annum, quite fresh-looking steppe-bushes appear. At Eskishehir, near the western edge of the plateau, with 10–11 in., the flora is also fairly good, and in the valleys between the neighbouring hills several stretches of bush occur. At Afium Kara Hissar the vegetation is much poorer, and at Konia, near the Cilician Taurus, with only 7 in of rainfall, the ground where left to itself is nothing but dry, stony steppe, in summer completely parched.

Bushes are hardly ever found in the plain itself, but only along the rare streams or in damp shady ravines. Woods are still scarcer. The ground is not suited to them ; for only in a few places is there sufficient moisture to decompose the remains of animal and vegetable life enough to form humus capable of nourishing real forest. Instead, there is generally only low scrub or scattered thorn-bushes.

The border region of the plateau was probably better wooded in former times than it is at the present day. Careless destruction has of course had a great deal to do with the disappearance of the woods here as in other parts of the east. The deforestation probably coincided with the influx of nomad shepherds from the east who were accustomed to wide spaces and needed them for their flocks, and so set fire to large tracts of forest which their herds, mostly goats, prevented from growing again. The same factors are still at work in Anatolia.

Most of the interior, however, must always have been steppe. So much may be gathered, not only from climatic conditions which have presumably been always the same, but also from historical evidence.

The only tree to be seen now in any numbers on the plateau

is the pyramid poplar (*Populus nigra*, var. *italica*) which is often planted near settlements, and is visible from a considerable distance. It takes the place of the cypress of the lowlands. Besides the poplar, occasional elms and willows may be seen growing by the feeble streams together with tamarisk (*pallasii*, *tetrandra*, and *parviflora*) which flourishes beneath their shade.

Otherwise the plateaus are almost treeless, except on the occasional hills, generally of volcanic origin, which rise from them and are often covered with shrubs or trees. Their lower slopes, when not cultivated, generally merge into steppe of the same or similar formation as the plain, to a height of about 4,600–5,200 ft. Above that is a more or less continuous zone of brushwood reaching to 6,200 ft. or higher. In its lower parts the remains of earlier woods can often be detected, which are now confined to a few small patches in remote valleys. An especially fine example of this is the Kara Dagh, north of Karaman, a block rising sheer from the plain, which was once covered with oak forest. Now it is almost treeless, with only a little scanty underwood on its upper parts, and its few streams are dried up early in spring.

In many respects the mountain-bush of central Anatolia resembles the dwarf firs of the Alps, and, in its scantiness and monotony, the maquis region. It is generally of mixed shrubs, but often junipers or oaks predominate. The chief varieties are *Quercus coccifera* and *syriaca*, *Juniperus oxycedrus*, *drupacea*, and *foetidissima*, *Ilex aquifolium*, *Berberis crataegina*, *Pinus elaeagrifolia*, *Prunus prostrata*, *Cotoneaster nummularia*, *Acer tartaricum*, *hyrcanum*, *Jasminum fruticans*, *Ligustrum vulgare*, *Daphne oleoides* and *buxifolia*, *Rhamnus infectoria* and *Cistus laurifolius* which grows on the Sultan Dagh above Ak Shehir at 4,900 ft. Peculiar to almost all is a more or less stunted growth, rarely having a real tree-form, with dry, often reed-like branches and little foliage, but very thorny. The bush is not very thick and is interspersed with ground plants, which have more room to grow here than in the maquis or in the liana-filled woods of the north.

The Economic Importance of the Forests of Asia Minor

In a country so poor in lines of communication as Turkey, which is not in a position to transport coal in large quantities, nor to use its own supplies to advantage, wood is the natural fuel, and in its original form or as charcoal is most commonly used. Everywhere in the woods of Asia Minor kilns are to be found, especially near the larger towns. The largest yields of firewood and charcoal naturally come from the thick woods of the north, but the maquis of the west and south is also used for the same purpose, and Smyrna has a fair export of charcoal, obtained principally from the evergreen bushwoods of Lycia and Karia.

Fir and pine cones are also a favourite form of fuel. They are collected in the pinewoods, and packed in sacks which are sold in the markets for 3*d*.–3½*d*. per sack.

More frequently the wood is used for building purposes, &c.[1] Wherever there is timber—of however poor a quality—the houses are built of wood, only the foundations being solid stone. This accounts largely for the saw-mills everywhere found in the woods where there is water to supply driving power. There is a considerable export of building timber, especially in the north and south, where special timber-wharves have been built, e.g. at Yüksekkum.

Another important product of the forests is valonia, chiefly collected in the west and south-west, and used for tanning. The woods of valonia oaks generally belong to definite owners, to whom they yield an easy profit, needing no kind of care. Before the war half the total production of valonia went to Britain. As the largest forests are in the Phrygian region,

[1] According to the 1909–10 statistics the Turkish output of wood and wood products amounted in value to 136,000,000 million piastres, 75,000,000 of which were for building, 50,000,000 for fuel, 7,750,000 for by-products, and 3,000,000 for wooden wares. The value of the building timber from the vilayet of Kastamuni was 14,750,000, from the sanjak of Boli 10,400,000, from the vilayet of Konia 9,250,000, from the sanjaks of Izmid and the Dardanelles and the vilayet of Adana 6,000,000 each, and from the vilayet of Brussa 5,000,000.

Smyrna is the chief port of export and ships between 48,000 and 65,000 tons of valonias yearly.

Equally large is the export of hazel-nuts from the Pontic woods of the north and north-west. The care of these woods is often confined merely to clearing them of other trees and shrubs. But carefully laid out plantations are also found, and whole hills are covered with them along some valleys. They are usually planted in clumps of 6–10 trees, 10 ft. apart. After 5–8 years there is a thick spreading undergrowth about 10 ft. high, yielding a splendid harvest in good years. In a rich season one stem yields 40 okes (88 lb.), so that a clump of 8 trees produces 4 cwts. of nuts. The hazel-nut trade is therefore an important branch of industry in the Pontic area, particularly in and around Trebizond, where the cultivation and gathering of the nuts employs thousands of workers in September and October. Italy and Germany were the chief pre-war markets for Anatolian hazel-nuts. The Turkish nut has a pleasant taste and a strong flavour and has of recent years largely superseded the almond in the manufacture of chocolates and marchpane in Germany, France, and Switzerland.

Besides timber, charcoal, valonia, and hazel-nuts, the other products of the woods are unimportant. Their use in agriculture, for feeding-stuffs or litter, &c., has only local value. The extraction of resin, turpentine, tar, &c., is also inconsiderable. The chief resin-producing trees are the pistachio, from which an intoxicating drink is also obtained, and liquidambar, which grows in the hot damp woods of the south. Edible nuts, apart from hazel-nuts, are not found in any quantity. The chestnuts which grow in the north and north-west are eaten by the natives, but not sold or exported in any quantity. Oil from pines constitutes a very small industry and is not exported. Pine-kernels are, however, used a great deal in native cooking. All attempts at local cellulose manufacture have come to nothing.

Clearing and Re-afforestation in Asia Minor

According to the statistics for 1909–10, 8·83 per cent. of the total surface of Turkey was covered with forest. The woods have always suffered from bad treatment, and might have been much better to-day if at all properly managed.

The destruction of timber by the nomads and by the wasteful use of it by the peasants have been the main factors at work. Lack of mean of communication has also had a pernicious effect. Timber could not be brought from a long distance, so that an industrial undertaking would ruthlessly cut down everything all round it. On the other hand wherever ways of transport did develop, the woods thus made accessible were robbed at once.

The Turkish forest administration, so far as it existed, was powerless against all these circumstances, till 1870 when the woods were divided into three classes.

The first included the mountain forests which anybody was permitted to use.

The second class comprised the forests reserved for the Admiralty, whose officials first cut down the trees, and then looked to see if they were any use for their purpose.

The third class was the public woods near the towns.

A department was instituted to put a check to the devastation of the woods, which it did very ineffectively by half-measures and with far too small a staff.

Greater attention has been paid to the matter in recent years. The task of afforestation and the preservation of the existing woods, of course, involves most complicated and wearisome work. Often, especially in the mountainous districts, replanting is impossible, as the rock has been denuded of its covering of earth, while in the damp north the undergrowth springs up so rapidly that the trees do not have a chance. It is the same in the west and south-west, where the evergreen maquis is always spreading and the teeth of goats destroys the young trees.

Not only is the natural re-afforestation of large parts of

Asia Minor difficult or quite impossible, but so is the artificial, on account of variations in soil or climate. Considerable service has been done by the Anatolian and Baghdad Railway Co., who, by laying out their own experimental gardens, have done much towards re-afforestation and have also introduced several valuable varieties of foreign timber. There have, of course, been failures, particularly in the interior where plantations laid out at great expense have come to nothing. Land looking fairly suitable cannot be replanted offhand, for ground and soil are by no means everywhere suitable, and always have to be very carefully examined before planting. It is very difficult to prevent the destruction of the young plantations by sheep and goats, for sheep and goats play so large a part in the economics of the people that complete prohibition of the forest-pasture would mean a domestic revolution.

To give good results, the expenditure of a considerable amount of public money and the education of a competent and large personnel of lower officials will, of course, be necessary. Several promising beginnings in one or two directions have been made lately. The order of 1911 for the inspection of forests made a good start, and a series of supplementary orders since then has produced some improvement.

Fauna

The following summary deals only with the wild life of Anatolia. Domestic animals are considered in chapter VI.

Animals

The leopard (*kaplan*) is still found here and there in the southern and south-western coastal districts. Lions and tigers seem to have been common in ancient times but have now disappeared. The brown bear, however, is still found in the wooded mountains. The wild cat (*F. catus*) is frequent in the wooded coastal regions. The lynx (*vashak*) and panther (*pars* or *kaplan*) are occasionally met with on Taurus and Giaur Dagh, the former also in the centre and north.

A small graceful tree-lynx is found near Smyrna. Wolves are numerous in the interior (note the frequency of such names as Kurt (wolf) Dagh, Kurt Köi, &c.), and in winter are a pest to the shepherd. They do not, however, hunt in packs. The jackal (*chakal*) is found everywhere, mostly in the low warm coast lands of the south. The fox (*tilki*) is also not uncommon. The striped hyena (*sirtlan*) appears to be confined mainly to the Smyrna district and to the southern regions, especially round Adana. It is, however, found in other places. The badger (*barsak*), marten (*M. vulgaris* and *sarmatica*), and otter (*su iti*) are fairly common and marten fur is an article of export to Russia. The hedgehog (*kirpi*), porcupine (*oklu kirpi*), and ichneumon (*nims*) are also met with.

Among rodents the hare (*tavshan*) is generally found where the ground is rocky. The soil in the uplands is in many places honeycombed by the burrows of the *suslik* (*Spermophilus xanthoprymnus*) and the hamster, and the bare salt plains of the Lycaonian steppe are the home of the sand-mouse (*Psammomys obesus*). The Syrian squirrel (*Sciurus syriacus*) is common in the woods of Taurus and Antitaurus. The beaver on the other hand is apparently not found.

Among deer may be mentioned the stag, fallow (*yamurcha*), and roe (*karja* or *elik*) deer. They are, however, no longer common in the coastal mountains and on Antitaurus. The chamois (*kyzyl gechi*) is occasionally seen in the northern part of the vilayet of Sivas and near Trebizond. The gazelle (*jeyran* or *jeylan*) frequents the plains round Adana and in the upper mountain levels the wild goat (*Caper aegagrus*) and the moufflon (*koch*, *Ovis musimon*) are still found. The ibex (*yaban gechi* or *dagh gechi*) frequents the rocky peaks of Taurus, Antitaurus, and Giaur Dagh. At the beginning of winter it descends to the upland pastures. The wild boar (*yaban domuz*) is met with wherever the conditions are favourable. It is scarce in the central highlands but common along the Mediterranean coast where there is marsh and jungle, and acorns, chestnuts, and beech-nuts are plentiful. It often does great damage to crops.

Birds

Nearly all the song-birds of Central Europe are found in the wooded mountains. Mention may be made of the nightingale, thrush, blackbird, hedgesparrow, finch, linnet, siskin, goldfinch, robin redbreast, fallow-finch, tomtit, redstart, pipit, and many others. Wagtails are found in the rocky stream-valleys, the wood-pecker and the cuckoo in the woods, and larks in spring are numerous on the central plateau.

Wild-fowl are very common and frequent the marshy streams and lakes. Many varieties of duck are found, with swans, geese, herons, bitterns, plovers, godwits, curlews, red shanks, ibis, and especially storks.

The bustard (*toi*) is found in large numbers in autumn, winter, and spring on the steppe lands. The lesser bustard (*mezmende*) is widely distributed and is found in the drier parts of alluvial plains. Vast numbers are to be seen in winter on the Adana plain. The francolin (*duraj*) is fairly common in warm, low land, particularly on the south coast. The giant partridge (*ur keklik*) is only found at altitudes over 8,000 ft., and red partridge (*keklik*) abound on the rocky hills. The pheasant (*suilun*) is found near Izmid and in the deltas of some of the Black Sea rivers, but is nowhere numerous. Quail (*bildirjin*), visit the south coasts in spring and autumn, while snipe (*yelve kushu*) are found round the marshes of the interior in September and descend to the lower grounds in winter. Woodcock (*chulluk*) frequent the shores of the Marmara, Dardanelles, and Ayas Bay.

Predatory birds are numerous and include the golden eagle, *A. mogilinik*, *A. pennata*, sea-eagle, lämmergeier, white-headed vulture, and Egyptian carrion vulture. Falcons are widely distributed and include at least six varieties. Hawks, sparrow-hawks, kites, buzzards, and owls are also numerous.

Reptiles and Amphibians

There is little information under this heading. Special mention may be made of tree-snakes (*Dipsadids*) which are found on the central plateau.

Fish

It is known that many of the streams and lakes of Anatolia are abundantly stocked with fish, but there is little detailed evidence. The fisheries of the Manyas Göl, Abulliond Göl, and other lakes are important, the fish caught including pike, carp, cray-fish, &c. *Salmo ferox* or a similar fish is said to be found in the mountain lakes. Sturgeon fishing appears to be carried on at the junction of the Susurlu Chai and Ulubad Chai.

Trout from $\frac{1}{2}$ to $1\frac{1}{2}$ lb. are found in most of the streams, and rivers like the Porsuk Chai and Kyzyl Irmak are said to be full of fish, large sheat-fish being perhaps the most important variety in the case of the Kyzyl Irmak. In a good many instances, however, fish in Anatolia seem to have an unpleasant flavour. This is true at least of those caught in the Bafy Deniz and Porsuk Chai.

CHAPTER IV

HISTORY, ETHNOLOGY, RELIGION, SOCIAL CONDITIONS

Influence of geography—The period of Oriental dynasties—The period of Greek civilization—The Turkish period—Origin and composition of population—Meaning of 'Osmanli' and 'Turk'—The Turkish Conquest and its consequences—Racial effects of the Conquest—Social effects of the Conquest—Economic effects of the Conquest—Lines of cleavage in Anatolian society—Religious institutions—Manners and customs—Economic capacity of population—Distribution and density of population—Emigration and immigration.

In this chapter it is proposed to lay stress on some aspects of the history of Asia Minor which have a bearing on the present and possibly the future racial, religious, social, and political conditions of the country. The political and social relations of Asia Minor lie embedded in its racial and religious history, and the method of arrangement adopted is designed to bring out the main historical factors which have combined to determine the characteristics of the modern population.

Influence of Geography

The history of Asia Minor has been, in a peculiar degree, determined by its geographical situation and structure. Planted like a bridge between Europe and Asia, the peninsula has been 'a thoroughfare of many conquerors, the abiding-place of none, a debateable land on which the armies of East and West have fought, or marched towards continents beyond'. It has been the scene of a continuous ebb and flow of European and Asiatic conquest or cultural influence; it has never, except possibly in the Hittite period, formed the territory of a single self-contained sovereign state, with a capital in the country itself. Its geographical situation is fatal to permanence.

Equally fatal to permanence, and to internal unity, is the peninsula geographical structure. The central plateau, in all read conditions human life and development, is sharply marked off from the coast. The history of the two cannot but be different. The coast-lands seem to attract and to evolve a totally different type of population from that of the central plateau. It suffices to recall the Greek colonies of the early period, the Genoese and Venetian settlements of the Middle Ages, and the preponderance of Greek and Levantine inhabitants at the present time. The political power of the coast population has varied throughout history with the strength of the governments which control the interior. In type, character, and ways of life they resemble a south-European population, and they form a permanent human link between the Asiatic hinterland and Europe.

The history of civilization in Asia Minor falls naturally into three periods :

1. The period of native or external oriental dynasties : up to 334 B.C.

2. The period of Greek civilization, Hellenistic, Roman, and Byzantine : 334 B.C.–A.D. 1071.

3. The Turkish period : A.D. 1071 to the present day.

The Period of Oriental Dynasties

About the middle of the second millennium before Christ, the Hittite kingdom, with its capital at Boghaz Köi, appears to have comprised the whole of the Anatolian peninsula. On the subjection of the Hittites by the Assyrians, about 1100 B.C., Asia Minor slowly emerges into history as the home of a medley of races whose origin and affinities are quite obscure. Before the beginning of the first millennium B.C., the north-western and central portions of the peninsula were overrun by the Phrygians, a Thracian race from Europe. The struggles between the Phrygians and the Hittites along the banks of the Sangarius have left an echo in the sagas of the Trojan War. The Phrygians were subdued by the Lydians in the sixth century B.C., and when the Persians

ed Asia Minor soon afterwards they found the Lydians possession of the western part of the country, up to the alys. In the mountains of the south other peoples, Carians, Lycians, and Pisidians, maintained their independence down to the advent of Alexander the Great.

From about 1200 B.C. onwards, Greeks from the mainland of Greece and the Islands began to settle on the coasts of Asia Minor, and in time founded a fringe of colonies extending continuously round the coast. These colonies were trading posts, and though many of them became prosperous and powerful, they never succeeded in combining effectively against the native powers of the interior. They fell an easy prey to the Lydians and afterwards to the Persians, who levied tribute on them, but allowed them to govern themselves. The Asiatic colonies played an important part in Greek history; their importance for Anatolian history lies in the fact that they formed the bases from which Greek culture spread itself over the interior under the successors of Alexander and the Roman Empire.

The Persian conquest of Asia Minor was one phase of the recurring ebb and flow of Eastern and Western influence in the Near East. The Persian onslaught against the Mediterranean world was held at Marathon, Salamis, and Plataea, just as the Turkish onslaught against Central Europe was held at Vienna 1,200 years later. Asia Minor remained in the feeble hands of an empire which had spent its effort, until such time as a power should arise in the West with the ambition and the material means to roll back the oriental tide. The campaigns of Cyrus with his 10.000 Greeks and of Agesilaus showed that the thing could be done whenever it was seriously taken in hand.

The Period of Greek Civilization

In 334 B.C. the Macedonian Alexander, as the self-avowed champion of Hellenism, crossed the Hellespont. Before his death in 323 B.C. he had shattered the Persian Empire, and under his successors Asia Minor was opened up to Greek

influence. From this point the hellenization of the peninsula went steadily forward. It is indeed important not to read too much into the term as applied to the period of Alexander's successors. Greek culture spread inwards along the trunk routes, and gained a footing in the cities which the kings founded to guard these routes. In these cities Greek became the language of educated society, and Greek municipal institutions, modified to conform to the existing hierarchical structure of society and the government of the country as a whole by Seleucids and Pergamenes, paved the way for the more thorough hellenization which was to come. But the hellenization of this period was but a faint outline on a solid oriental background.

Early in the third century B.C. the ethnical composition of Asia Minor was enriched, and its peace disturbed, by the irruption of a horde of Celts who ultimately settled in the north-eastern part of the Phrygian country, in the middle basins of the Sangarius and the Halys, and gave it the name Galatia. In the fourth century of our era these Celts were still speaking a language which resembled that spoken at the same date in Lorraine.

The Romans gained a footing in Asia Minor in 133 B.C., and by A.D. 72 had firmly established their frontier on the Euphrates. After centuries of war, the country was now destined to enjoy a long period of peace and security, and its material prosperity increased by leaps and bounds. It was under the Roman Empire, mainly through the agency of the Christian Church, that the hellenization of the country made most progress. The Imperial Government tolerated native customs and the native languages, but the Church set its face steadily against both, and we now find the use of the Greek language and Greek education penetrating into every nook and corner of the country. Paganism put up a struggle on behalf of the native institutions, but after Christianity became the official religion of the State the result of the struggle was a foregone conclusion, and we hear the dying echoes of the last of the native languages in the eccle-

siastical literature of the sixth century of our era. The centre of gravity of the Greek world now lay east of the Aegean, and when the Roman Empire, in A.D. 364, was divided into a Latin and a Greek half, the natural capital of the latter was Constantinople.

The history of Byzantine Anatolia is one of continuous struggle against enemies from the East, Sassanians, Arabs, and Turks, accompanied by the gradual return of the Government and the people to orientalism, and ending with the establishment of Turkish rule over the peninsula. 'Asia Minor had been for a time annexed by Europe, and Europeanized under the Roman Empire. But the conquest was not permanent; the East swept back again time after time to the Aegean, and at last obliterated almost every trace of European character.'

'Centuries of peace, order, and security brought Asia Minor to a state of extraordinary prosperity and wealth; a fertile soil was used to the utmost, and the riches that lay below the surface were mined and exported to Rome. But the extreme centralization of government under the later Empire produced bad effects: the self-administering powers of the cities were abrogated, and the municipal officials became mere servants of the central government. The population lost the powers and thoughts of freemen, and became the slaves of system and caste; trade guilds managed all that the Imperial government left undone, and the life of each individual was almost fixed from his birth. When weakness in the central government allowed the military system to grow weak, the armies of oriental enemies swept unimpeded over the whole country, for beyond the soldiery, a caste by themselves, there was no one to raise a hand against the invaders.'

The struggle against the Sassanians and later against the Mohammedanized Arabs raged for centuries with varying success. Weakness alternated with strength on the Byzantine throne, and a corresponding see-saw of Byzantine and of Arab success marked the years from 500 to 1000 of our era.

On more than one occasion the Arabs overran the whole peninsula, and even appeared under the walls of Constantinople. Towards the end of the tenth century the Macedonian dynasty carried the war into the enemy's country, overrunning northern Syria and part of Mesopotamia. It looked for a time as if Asia Minor were to remain what it had been for centuries, a European bridgehead on Asiatic soil.

The Turkish Period

Then came the Turks. They entered Asia Minor in 1067, by 1070 they had poured over the western rim of the plateau, in 1071 they defeated and captured the Emperor Romanus Diogenes at Manzikert. The Arabs had had similar successes; but unlike the Arabs, raiders from a warm climate to which they were anxious to return, the Turks had come to stay. Before the end of the eleventh century they were recognized by treaty as the sovereigns of eastern and central Asia Minor. The next century saw the Turkish invaders broken up into groups under petty chiefs; these chiefs found an overlord in Osman (1288–1326), who brought most of the peninsula under the power of his followers (see p. 169). In 1354 the Osmanlis gained a footing in Europe, and presently overran Thrace, Macedonia, and Bulgaria. In 1453 Constantinople fell into their hands, and early in the next century Selim I conquered the south coast of Asia Minor. With the exception of a short period (1833–40) when Mehmet Ali of Egypt held Cilicia, Asia Minor has been Turkish ever since.

Up to the reign of Mahmud II (1808–39), Asia Minor continued to be ruled in large part by petty chiefs called Dere Beys, whose allegiance to the Sultan was often loose. The Dere Beys were put down by Mahmud, after a severe struggle, before the invasion of Mehmet Ali, and the government of the country was centralized in Constantinople.

Origin and Composition of Population

As already has been remarked, Anatolia has never, with the possible exception of the Hittite period, formed a single

and complete political state, governed from a capital inside it. It has always appeared as a land of passage, a land-bridge whose possession has been contested by states lying outside it. From this situation it follows that the population has absorbed in the course of history, and still goes on absorbing, many external elements. But it belongs to the genius of the land that all immigrant elements gradually die out, or lose their individuality and become merged in the Anatolian type.

Since the opening of the historical period, the ground-stock of the Anatolian population, taken as a whole, has been the race called 'Hittite' or 'Armenoid', which has been ruled by many foreign masters, has learnt several languages in succession, has absorbed numerous foreign racial elements such as Greek, Phrygian, Galatian, and more recently Turkish, but has always maintained its essential character and remained fairly uniform over the whole peninsula. Greek civilization and the Greek language obtained a considerable hold on this population under the successors of Alexander the Great and the Roman Empire, and this hold was strengthened and extended by the Christian Church, which by the end of the sixth century of our era succeeded in producing a level uniformity of language and religious profession over the entire country. But beneath the veneer of Hellenism, whether Macedonian, Roman, Byzantine, or Ecclesiastical, the bulk of the native population has always appeared as Anatolian or Asiatic in type and mentality, in contrast with the European Greeks and other south-European peoples. The pure Greek element, away from the vicinity of the west coast, has never been large. It is usual to speak of the Byzantine Anatolians and their modern Christian descendants as 'Greeks', but the term must be understood as connoting religion, language, political aspirations, and to a certain extent civilization, certainly not race. The majority of the present-day Greeks are of the same stock as the Moslems; the two are distinguished mainly by their religious profession, and by the mental and moral qualities engendered by Christianity and Islam respectively. The Greeks are Anatolians

who have retained their Christianity. The Moslems comprise Anatolians whose ancestors embraced Islam, blended with a Turkish element the strength of which varies in different regions—it is especially strong in the centre and south-east—and a sprinkling of races of pure blood, Turkish, Kurdish, Circassian, &c. These facts form the groundwork of any study, ethnological, social, or political, of the modern population of Anatolia. It should be noted, however, that the people themselves are quite unconscious of a racial identity. Their entire history, and the relief of the soil, which breaks the population up into isolated groups, have tended to accentuate differences rather than to promote unity.

Meaning of 'Osmanli' and 'Turk'

'Osmanli' (Europeanized through the Greek as 'Ottoman') is a title claimed by the Turks of Anatolia and Thrace. It has no racial character. It did not come into existence until two centuries after the conquest of Anatolia had been achieved by the Seljuk Turks. The original Osmanli were 'the people of Osman', a Turkish chieftain who settled in the mountain district south and south-east of the Sea of Marmara. The successors of Osman rapidly extended their power, overrunning the north-west part of Asia Minor and the south-east part of Europe, and ultimately making themselves heirs to the Seljuk Sultans of Konia and leaders of the Turkish race and Empire.

'The name Osmanli, in those circumstances, became a sort of imperial designation. All Moslem subjects who felt loyalty to the Osmanli Sultans called themselves Osmanli. The title implies adherence to the governing religion and loyalty to the Ottoman Empire among those who claim it. It thus acquires true political application and force. It expresses and sums up all that exists in the way of political and social unity and of loyalty to the dynasty among the separate Moslem races in Turkey.' In theory, all Turkish subjects are Osmanlis. Thus a Kurd or a Circassian subject of the Empire may call himself 'Osmanli' but not 'Turk'.

In the first enthusiasm of the Revolution of 1908 the title was assumed by the Anatolian Christians, but the enthusiasm was short-lived.

In the name 'Turk' several shades of meaning are to be distinguished. The name is often applied in Europe to the totality of the Moslem subjects of the Turkish Empire. This use is misleading.

1. As affecting Anatolia, the name Turk first occurs in Byzantine and Arab historians, who use it indifferently of the Seljuk Turks and of the later bands of invaders (including those afterwards called Osmanli) who entered the country from the eleventh century onwards. As regards race and language, all these invaders were Turks, and the name was used as a racial designation covering all. Sometimes the Turkmens are distinguished from the Turks in the Byzantine histories; the distinction possibly corresponds to a subdivision (see below); it was certainly not racial. From the ethnical point of view, this is the only correct use of the name Turk in reference to Anatolia.

2. As the invaders settled down, and as sections of them became merged in the older population, the name Turk gradually became confined to the mixed Moslem population who lived in towns and villages. This is the connotation of the name Turk as used in the country at the present day. It is rather sharply defined as meaning the settled Moslem population of mixed Turkish and Anatolian blood, or of pure autochthonous descent, as opposed on the one hand to the nomadic or semi-nomadic Yürüks, Turkmens, and Kurds, and on the other hand to the settled Moslem immigrants who have entered the country recently (Circassians, Rumeliotes, Cretans, &c.). In the south-east, Turks and Arabs are sharply distinguished. As Turkmens or Yürüks settle down, they come in the course of a generation or two to be called Turks.

We have, therefore, to note the paradox that the name Turk is now given in the country to a section of the population which has comparatively little Turkish blood in its veins, and

withheld from or rejected by other sections, such as the Yürüks and Turkmens, who are apparently of pure Turkish blood.

The restriction of the name Turk to the settled population probably explains the 'contemptuous' use of the name, common in the country. 'Turk' has long been used as a term of abuse, e.g. 'Turk Kafa' means 'blockhead'. This is probably an echo of the nomad's contempt for his settled neighbour, which is characteristic of Turkestan or Arabia.

3. In the last few years there has been 'a tendency, springing from political motives, to give dignity to the name Turk, and to regard the Empire as cemented and represented by the governing Turkish race rather than by the Moslem religion—in other words, to establish a political and racial ideal in opposition to the Pan-Islamic ideal of Abdul Hamid.' This is the sense in which the Young Turks (many of whom, incidentally, are not Turks at all) apply the name to themselves, and this is the sense in which the name Turk forms the basis of Pan-Turanian racial claims, in so far as these are urged from the Ottoman side. A surprising feature in these claims is that they are put forward, in the first instance, by the class described in the next section.

4. As applied to the thin upper stratum in the Ottoman State, the effendis of the large towns and the Turkish official class generally, the term Turk has a somewhat different connotation. Racially and physically, this caste is quite unclassable. They represent a mixture of elements derived from Turkish landowners, Albanian officers, Circassian beauties, kidnapped Christian children from Europe or Armenia, Arabs, Greeks, negroes, and renegade Poles. Their common bond is their religious profession, their politico-national pride, and, as the only remaining inheritance from their Turkish forefathers, a militaristic aggressiveness which makes them the scourge of their subjects and a danger to their neighbours. They are the only element in Islamic society which have taken over European ways of life, especially in dress (see p. 193). In character and outlook they stand in marked contrast to the

ordinary Anatolian Turks. Among Englishmen who have lived long enough in Turkey to survive the glamour of first impressions, Turkophiles will generally be found to be thinking of class 2, Turkophobes of class 4. The ' bag and baggage ' politicians in this country are not always aware of the distinction.

The Turkish Conquest and its Consequences

There are two aspects of the Turkish conquest of Anatolia which claim the consideration of students of modern conditions in Anatolia—the causes which led to its rapid and complete success, and its effects on social and economic conditions in the country.

At the time of the Turkish invasions, Anatolia was governed from the Byzantine capital of Constantinople. Coming from the east the Turks had no difficulty in overrunning defences which had been shattered by centuries of war against Sassanians and Arabs, and making themselves masters of an empire weakened by internal corruption and dissension. Anatolia fell piece by piece into the hands of the Turks between the eleventh and fourteenth centuries. The racial affinities and original home of the various bands of invaders who successively overran Anatolia and each other during those centuries need not be discussed here. It is enough to say that the Turkish invaders came from central Asia, and were the kinsmen of some of the Turkish-speaking tribes who still extend from the Caucasus to the Pamir plateau.

The invaders were mere hordes of nomad warriors, adventurers who fought Byzantines or Crusaders or who quarrelled among themselves, transporting the custom of the steppe to the highly cultivated soil of Anatolia. After centuries of strife, a definite hegemony over large parts of the peninsula was established by the Osmanli. The capture of Constantinople, which commands the principal route into the interior, confirmed them in the possession of Anatolia.

The Turks adopted Islam as their religion, and they appear to have combined a ruthless repression of opposition with a

ready welcome to all who cared to embrace Islam. The Anatolian population went over to Islam in masses.

The change from Christianity to Islam was not indeed sudden or catastrophic. We have seen that the bulk of the Anatolian population, under a veneer of Hellenism, remained Asiatic in habit and outlook; and this population, while it has repeatedly proved amenable to just and competent administration by external Western authority (Macedonian, Roman, Early Byzantine) has never had any difficulty in submitting to Oriental rule or ecclesiastical authority (Persian, Arab, Turkish). It has been pointed out by a clear-sighted authority that the Byzantine Government itself had been growing more oriental century by century. 'One dynasty overturned another, and each was less Western than the preceding one. Phrygians, Isaurians, Cappadocians, and Armenians ruled under the style of Roman Emperors, till at length a purely Oriental dynasty of Osmanlis eliminated even the superficial forms of the West. The change [from Byzantine to Turkish rule] was not in all respects so great as we are apt to suppose. The language and the religion and the government of Anatolia reached at last the Oriental goal to which the genius of the land tended.'

In such a propitious soil, the process of Turkization cannot have been difficult. The manner and duration of the process are obscure, and the historians throw little light on it. It was Armenians and 'Greeks' who were most exposed to Turkish influence, while the Kurds in the east and the Caucasians in the north were affected less strongly and more gradually. Even as between the two Christian peoples it should be noted that Great and Lesser Armenia, partly owing to the mountainous nature of the country, partly to the fact that they were more rapidly overrun and that their population escaped decimation in protracted wars, were less exposed to Turkization than the 'Greek' populations of the central plateau and coastlands of Anatolia proper. Those districts became so Turkified in the earliest period of Turkish rule that, in 1334, an observer noted that the only Greek city remaining in Asia Minor was

Philadelphia. Among the causes of this extraordinary change must be reckoned the loss of political and religious energy which resulted from the rule of a succession of effete monarchs in Byzantium. The continued successes of the Osmanli hordes had their effect in the complete demoralization of the Anatolian population, and the cooling of Christian fervour after the Crusades opened the way to Moslem proselytism. Further, the blasé Christian civilization of Anatolia suffered from comparison with the brilliant culture of Seljuk Persia, which found an Anatolian home at the Court of the Sultans of Konia. If the light of the Persian culture dazzled the eyes of the pious Crusaders from Europe, it is small wonder that the half-graecized Anatolian, deprived of both moral and material support from Byzantium, turned his eyes to the same light, and as time went on ceased to regard Osmanli domination with that horror which the advent of the Turk later aroused in Europe. In south-eastern Europe, at the centre of Greek culture, the Turk represented the hated Asiatic spirit. In the outlying provinces of Anatolia he had less difficulty in imposing himself on a population already more than half Asiatic.

Among the newly-arrived Turks, the notables settled in the towns, bringing masses of officials and craftsmen in their train, while the agricultural work on the estates granted to individual nobles was done by imported slaves and conquered Christians. At first, the 'absenteeism' which has been one of the drawbacks of modern Turkish agriculture was no doubt exceptional and many landowners governed their estates in patriarchal fashion until a century ago. In such a situation the effect of the privileges assured by the adoption of Islam soon made itself felt on the masses, and many went over to the Turkish faith. The weakness and helplessness of average Christian feeling can be judged from the fact that we find high officers in the Byzantine army, who fought as bitter enemies against the Turks, appearing presently as their co-religionists and fervent partisans. No doubt the Greeks who went over to Islam maintained their own language for a time, and there are said to be Moslems at the present day who pray

to the Prophet in the language of Homer ; but as a rule it was only those Greeks who remained Christian—and not all even of them—who retained the use of the Greek language. Where the Turkish element predominated, any opposition to it was of course out of the question, and, as time went on, forcible conversion on a large scale succeeded to the easy tolerance of individual Turkish leaders in the earlier period. It was the later Osmanli, rather than the earlier Seljuk princes, who carried on the work of Turkization with most energy and success. The Seljuks, in their political and cultural relations, looked to the East ; the Osmanlis conceived the idea of a Turkish state astride the Straits. Those among the older population who resisted the new order perished or fled over sea, and the strong military and hierarchical constitution of the Turkish state reduced the remainder to a uniform level in a surprisingly short time.

Had the Christian population of Asia Minor not been divided by the sea from its co-religionists in the West, had it been able (like the Greeks of Europe) to lean for support on a continuous chain of similar religious systems, the Osmanli might have found the task of Turkization much more difficult. So much might be argued from the analogy of the Slavs in Europe, who, though they flocked in crowds to Islam, yet continued to maintain intact their ethnical individuality and their language. In any case, the Turkish influence could not be so intense on the north-western frontier of the gigantic empire as in the centre and east, and could not produce the same denationalizing effect. In Anatolia, on the other hand, the ground was already prepared for the coming transformation, and it has been assumed with much probability that ere the end of the fourteenth century Anatolia had become Turkish to as great an extent as it is to-day.

In its effect, the Turkization of Anatolia is an historical curiosity. It is the process whereby a minority of invaders of a lower civilization than the older population has been absorbed physically by the older population, but has in turn imposed its language, religion, habits, and aspirations on its

subjects. Anatolia is now, and has been for centuries, the core of the Turkish Empire. All the Turkish possessions lying outside Anatolia and the adjacent strip of Thrace have for long been kept in subjection to the Turks with the blood of Anatolian soldiers.

Racial Effects of the Conquest

From what has been said above it follows that little of the physical type of the true Turk can be looked for in Anatolia. From the beginning of the process of amalgamation the Anatolian peasant and townsman represented at the most a mixture in which the Turk was never an important ingredient, and, as time went on, the population continued to absorb a continuous influx of Aryan and Semitic elements—Kurds, Persians, Lazis, Circassians, Georgians, Macedonians, Bosniaks, Rumeliotes, Tatars, Arabs, Jews, and other smaller bodies. But these elements have done little to modify the characteristic Anatolian type. As a rule they do not intermarry with the older population ; many of them fail to become acclimatized in Anatolia, and die out.

To sum up, the Anatolian Turk is of mixed race, springing from a union between a section of the Turkish invaders and the older population, and he is more Anatolian than Turkish. This stock falls into two originally different, but now indistinguishable classes :

1. The offspring of Turkish conquerors marrying women of the old population.

2. A large proportion of the old population who adopted Mohammedanism.

Alongside of the Turks, as thus defined, two important groups are to be noted :

1. The descendants of those portions of the old population who resisted amalgamation with the conquerors and their Mohammedanized neighbours, and have conserved their orthodox faith to the present day. These are the Greeks, who are discussed below.

2. The nomadic or semi-nomadic tribes of pure Turkish

blood who are found in relatively small numbers in parts of Anatolia. These tribes extend over the southern mountains from Aïdin to Diarbekr, and over large portions of the central plains. The population of the towns and settled villages consists of Turks, or, as they call themselves, Osmanli; the nomads and semi-nomads of Turkish blood are the Turkmens and Yürüks. The distinction between Turks and Turkmens is clear to the foreign observer, and is emphasized by the people themselves. The Turkmens and Yürüks are closer in character to the original Turkish invaders, for they are more distinctly central-Asiatic in physical type and in occupation. The Turks of the towns and settled villages approximate more in social type, and in their peaceful and law-abiding character, to a European population.

Generally speaking, the Yürüks are more truly nomadic than the Turkmens, whose winter and summer settlements are usually close together, while the Yürüks travel over a wider area. The real difference is that the Turkmens practise agriculture, which binds them to a particular locality, to a greater extent than the Yürüks. Whatever original tribal difference may have existed between Turkmen and Yürük, they represent to-day respectively the semi-nomad and the nomad, and their habits illustrate the manner in which the Turks as a whole, originally nomads, have gradually settled down and merged in the old sedentary population.

The common hypothesis that the sedentary Turks of to-day are the descendants of the original Seljuk and Osmanli invaders, while the Turkmen and Yürük nomads are the offspring of tribes who entered Anatolia at a later date, is disproved by all the evidence. The distinction between Turk and Turkmen goes back to the Byzantine historians of the Turkish conquest. There may have been an original tribal difference between the two; but any such distinction has been entirely supplanted by the much broader and deeper line of cleavage which has been described above. The question why some of the invaders mixed with the old population and settled down almost at once, while others remain of pure stock, and retain

their nomadic habits till the present day, is a psychological as well as an historical puzzle. It is no doubt true that the nomads have been reinforced from time to time by fresh immigration of kindred tribes from the east.

Certain it is that the nomads retain the physical characters of the true Turk in a purer form than their sedentary neighbours. In appearance they are said to resemble the Turks of Azerbaijan, especially the Terekme and Karapapak tribes. Their dialect is likewise said to bear a striking resemblance to the language of Azerbaijan, both in peculiarities of pronunciation and in the retention of a stock of old Turkish words which in Ottoman Turkish have been modernized or replaced by borrowed words from Persian or Arabic.

The fluctuation in the ethnical composition of Anatolia is continuous, because Anatolia is a bridge over which peoples must move. But in spite even of such recent immigration as that of Caucasian, Bosniak, and Rumeliote colonists—who, it is true, were Moslemized before they entered the country—there has existed for centuries a stereotyped character which cannot be ignored. There is an unmistakable type, or series of similar types, which to some extent level down the racial and local divergences. In any case these divergences are slight. A northern, western, and southern type have been distinguished, mainly on the rather slippery ground of dialect, and it has been suggested that the old Anatolian ethnical core is stronger in the north and west than even in the settled population in the south. It is true that the 'Greek' element in the physical type grows more pronounced as the west coast is approached, but the difference in physical character between the inhabitants of north and south, east and west, is negligible.

Social Effects of the Conquest

Alongside of this uniformity of physical characteristics there is an even greater uniformity of intellectual and moral qualities, and of social habit, over the whole country. In a country marked off both by geographical conditions and by a pre-existing

Greek culture from both Arabia and central Asia, the effect of centuries of a Byzantinized Moslem civilization has been to produce among the Anatolian Turks an individual type of social life and custom. In spite of the deep chasm dividing Moslems from Christians, the former came strongly under the influence of Byzantine and Graeco-Anatolian culture. In the process of settling down among a people used to centuries of civilized life, the children of the steppe had to learn more than they taught. The influence of Persian and Arab culture on the Osmanli is matter of common knowledge. So long as the Osmanli were a society of nomad warriors, the influence of the Seljuk culture of Persia held sway over them. The strong Persian element in their language, literature, and art is derived from this phase of their development. Their conversion to Islam brought them likewise under the influence of Arab culture, which gave the Turkish state its strong hierarchical character, and stamped literature and the language of daily life with a deep Arabic impress. Both the influences, and especially the second, are still operative. But alongside of them must be reckoned the Graeco-Anatolian influence which came fully into play when the Ottoman State was finally established on the Bosporus, and masses of Christian Greeks were incorporated into the body politic and even into the race. The change in geographical conditions from central Asia to the Anatolian peninsula imposed a similar change in dress and habits, Byzantine art combined with Persian models to produce the characteristic monuments of the early Turkish period, and Byzantine culture effected a subtle transformation in Turkish and Moslem ideas and customs. Among customs due to Byzantine influence we may quote the Ottoman's predilection for the 'Salta' or short jacket, which offends against the orthodox Moslem's insistence on a cloak which shall cover the outline of the body, and the fashion of shaving the beard, introduced by Sultan Selim I and strongly disapproved of by other Mohammedans, in particular by the Turks of central Asia.

Economic Effects of the Conquest

It is a common charge against the Turk that his genius is to destroy, not to build. A study of the economic effects of the Turkish occupation of Anatolia will enable us to test this statement.

Asia Minor was regarded by the Romans as one of the richest portions of an empire comprising the whole Mediterranean basin, and extending far into Europe. Its wealth was derived from the development of its natural resources—vegetable and mineral—which are immense, and also from its position astride the main highway between the Mediterranean world and Asia, which made it a great avenue of trade. In discussing the effects of the Turkish régime on the prosperity of the country it is necessary to distinguish between these two sources of wealth. The Turks may or may not be held responsible for interference with the first. Causes over which the Turks had no control interfered with the second.

Deterioration had of course set in before the coming of the Turks. Over-taxation, misgovernment, and civil dissension during the Byzantine period must have exacted a heavy toll from the internal well-being of Anatolia, and the long series of wars with Sassanians and Arabs must have disturbed the course of trade over the country. But the important point to note is that the Turks found Anatolia a settled agricultural and industrial country. They were responsible for its *nomadization*.

Many of the bands of Turks who entered Asia Minor during and after the Conquest were nomads. From the first, a line of cleavage seems to have developed among the conquerors themselves—some of them settling with the older population in towns and villages, and practising crafts and agriculture, while others retained, and retain to this day, their nomadic habits. Agriculture implies settlement, and cannot flourish in a country roamed over by nomadic shepherds and goatherds. The result was that large stretches of fertile country went out of cultivation, and the century-long accumulation of

agricultural skill was irretrievably lost. The forest wealth of the country suffered from the same cause. The goat keeps down forests by destroying the young trees, and the nomad does not scruple to set fire to large tracts of forest to clear ground for pasture. Vast stretches of timber-bearing land have been and continue to be laid waste from these causes. Other economic effects have followed from the introduction of Central Asiatic modes of life. For example, the cultivation of the olive—a prime source of wealth in Mediterranean countries—is now confined to the few districts where Greeks predominate. The nomadic Turks prefer butter to olive oil.

While the Turks may be fairly charged with the impoverishment due to these causes, it should be noted on the other hand that the Turkish Government has done all in its power to suppress nomadism, and to force or cajole the nomads to settle down. Where nomadism has been encouraged, as in Armenia, it was done with a special purpose. The nomad is the particular enemy of the tithe-collector and the Government has a special interest in suppressing him. Nomadism has long been disappearing, and will in the end disappear completely, apart from the central steppes, where it is the only possible mode of existence and where the nomads are easily isolated (see p. 194).

Reference should be made to the section on the economic value of the Turkish population on p. 194.

The discovery of the Cape Route, opening up sea-communication with the Far East, heavily discounted the second source of the wealth of Anatolia, and the opening of the Suez Canal practically destroyed it. The Baghdad Railway, when completed, will restore the position of the country on an active trade route, and will continue and extend the work which has already been done by the existing railways in developing the country. The diversion of Far Eastern trade from the overland route to the sea routes has had as much to do with the impoverishment of Anatolia as the sins of the Turkish Government and the ineptitude of the Turkish people.

Lines of Cleavage in Moslem Society

(*a*) *Moslems and Christians.*—An attempt will now be made to describe the main elements in modern Anatolian society, and to group the various classes on either side of three main lines of cleavage.

Differences of race, religion, and language abound in a more than commonly composite population. Social distinctions of the type familiar in Europe are absent; social life is thoroughly 'democratic'. The sharpest line of cleavage in Anatolian society is that formed by religion. The chasm dividing Moslems and Christians is abysmal; even if a common environment produces an appearance of uniformity in regard to externals (see p. 178), yet in respect of mental and moral qualities, and of attitude to the problems that affect Turkey or the outside world, the Moslem and the Christian represent two entirely different points of view.

Moslems.—Those classed as Moslems comprise a variety of races of varying orthodoxy, from the free-thinking young Turk official whose conformity to Islam is merely a plank in his political platform, at one end of the scale, to the wild and retiring Takhtajy of the Taurus mountains, who is outwardly a Moslem, but practises rites derived from pre-Christian paganism, at the other end. The vast majority are orthodox and pious Sunni Moslems, as a rule strikingly free from fanaticism (though many districts form exceptions), with a sprinkling of Shiites represented by some of the immigrant Kurds and Kyzylbash Turkmens. In several cases Islam is openly professed by tribes who practise in secret rites of older origin—partly Christian, partly pagan. All the Moslems speak Turkish; among the peasants the chief bilingual groups are the Kurds and the Circassians. (See Appendix I.)

Christians.—Leaving the Levantines (generally Roman Catholics) out of account, the principal Christian communities are the Greeks and the Armenians. They form the chief of a number of non-Mohammedan native communities or 'millets' recognized by the Turkish Government, and granted complete

religious and a large measure of civil autonomy. After the capture of Constantinople in 1453, Mohammed II organized his non-Moslem subjects in communities or *millets* under ecclesiastical chiefs to whom he gave absolute authority in civil and religious matters, and in dealing with criminal offences (such as bigamy) which did not come under the religious law of Islam. This arrangement, designed to simplify the task of government, has had far-reaching effects on the political life of Anatolia. It established an *imperium in imperio* which secured to the Christians a distinct position before the law, the free enjoyment of their religion, control over the education of their children, and considerable autonomy in the management of their communal affairs. The *millet* organization encouraged the growth of a separate communal life, which in its turn engendered a longing for separate national life. In Anatolia the Greeks and the Armenians are the main representatives of this tendency.

Greeks.—Physically, two types can be recognized among the Anatolian Greeks, corresponding to a diversity of origin. One is the old Anatolian type, descended from the Hellenized Christian population which the Turks found in Anatolia on their entry into the country. The other corresponds to the type of Greek in Europe and the Aegean Islands, from which there has been continuous immigration throughout history.

Before the war, the extension and importance of the Greek element in Asia Minor had been increasing year by year. Greeks occupy the fertile coast-lands of the west and to some extent of the north and south, in solid masses, and move slowly but continuously into the interior. Their native language, long neglected, is now carefully fostered, and nearly all Greeks speak it as well as Turkish. They spare no expense to secure teachers and give their children a good education. The Greeks of the west coast are skilled seamen and fishermen. In the interior, the majority are engaged in agriculture, industry, and trade. The intelligent Greek has found a lucrative industry in the cultivation of fruit and vines, and the rearing of silk cocoons and the spinning of silk

is largely in his hands. Crafts requiring special skill in the towns are almost exclusively manned by Greeks. Like the Armenians they engage not only in retail trade in the interior, but in commerce on the large scale in the coast towns. This gives them great influence in the economic sphere, and has enabled them to amass much wealth. A strong sense of community holds the Greeks together, and increases their power. A leading trait is their quarrelsomeness, which brings them into continuous conflict with the Turkish authorities.

At the beginning of the twentieth century, the Greek population of Anatolia was reckoned at 1,300,000, and, given favourable conditions, would have increased rapidly. But the action of the Turkish Government during and after the Balkan war drove many of the Greeks oversea, and this appears to have been followed during the present war by even sterner measures. In 1912, the Greek Patriarchate claimed that there were over 1,700,000 Greeks in Anatolia. The Turkish enumeration of 1914 gives over 1,100,000.[1]

The great majority of the Greeks of Anatolia belong to the Orthodox Church and are under the authority of the Patriarch of Constantinople in religious matters. The Greek Uniates, who recognize the Roman pontiff as their head, are few in numbers.

Armenians.—The Armenians exist (or existed before the war) as a settled population only in Armenia and in some parts of the adjoining vilayets. Only here do they live *en masse*. In Anatolia generally they belong to the Diaspora, and usually live in separate quarters of the towns. They take part in all arts and crafts requiring skill and intelligence. They are distinctly more oriental than the Greeks, and the ordinary Turk feels kindlier to the Armenians than to any other non-Moslem people. The majority belong to the Armenian Church. There are minorities of Catholics, under the authority of the Pope, and of Protestants, organized in a *millet* by themselves.

[1] To the figures given in Appendix 2 (C) the Greeks on the Asiatic side of the Bosporus (vilayet of Constantinople) have to be added.

Relations of Moslems and Christians.—Loyalty to the Sultan and Caliph, a strong sense of political dominance, a fir conviction that, man for man, they are superior to th Christians, such are the leading political motives of the Anatolian Moslems. Their feelings towards their Christian fellow-subjects vary between non-committal friendliness and jealous hostility, and their general attitude is one of contemptuous tolerance. As against their sense of superiority must be set the fact, of which the Moslems themselves are conscious, that they stand on a lower intellectual plane than the Christians, and cannot compete with them in trade and industry. Under normal circumstances the two creeds live together on terms of good neighbourliness.

This does not mean that the Greeks and Armenians are satisfied with their lot. Whatever their racial origin, the important fact is .that the Greeks regard themselves as the kinsmen of the European Greeks, and pan-hellenic irredentism has awakened hopes of union with Greece, especially on the west coast. The Armenians of Anatolia-- or at any rate such as are capable of clear thinking—are under no similar illusion, but they share and support the political aspirations of their race, and have borne their share in its persecution.

Massacre.—This brings us to the subject of massacre, which is unfortunately the feature most familiar to Europeans in the relations of Moslem and Christian in Anatolia.

The injunction of the Koran to strike off the head of the unbeliever does no more than codify the immemorial custom of the Oriental in the settlement of religious or other controversies, And the method of wholesale massacre is the oriental way of dealing with troublesome minorities. Turkish middle-class and even peasant opinion condemns massacre, but when ordered by the government and carried out by Kurds or Circassians or the rabble of Turkish towns, it is accepted with resignation, like other manifestations of the will of Allah.

Various explanations of the motive of the massacres of Armenians are fashionable in Europe, and vary from time to

time as one European nation or another is friendly or hostile to the Porte. German publicists lay stress on the intrigues of Russia and England, who encourage Armenian revolutionaries with the object of weakening Turkey or giving an excuse for intervention, and call the tune for which the unfortunate Armenians have to pay the piper. That Armenian revolutionaries have consistently played with fire is undeniable, but there has never been the threat of anything that the police could not have dealt with. The real motives for the massacres, both under Abdul Hamid and under the C.U.P., have been, on the part of the government, the determination at all costs to maintain the dominance of the Moslem over the more intelligent and progressive Christian nationalities, and, on the part of an assenting public opinion, jealousy of the economic strength of the Christian element.

(*b*) *Turks and non-Turkish Moslems.*—While the Anatolian Moslems form a solid block in opposition to the Christians, they are by no means a compact body in respect of sentiment any more than of race. We give a brief account of the main motives of feud or dissension.

We have defined the Turks as the old settled Moslems, in contrast on the one hand to the nomads or semi-nomads, and on the other hand to the settled communities of recent immigrants.

Between a settled agricultural population and roving groups of nomads, who cannot move about without encroaching, there must always be hostility. This hostility is strengthened in Anatolia by diversity of race and differing grades of religious orthodoxy among the various groups, and it often outlasts the settling down of the nomads. The chief races who are still, or have recently been nomadic are the Turkmens, Kurds, Yürüks, and Avshars. All these groups, and the Turks, live apart from each other, hold little communication with each other, seldom intermarry, look on each other with dislike or contempt, and curse, in literal fashion, the religion of their respective fathers. The degree of attachment to the doctrine of Islam varies considerably in the different

groups, although all are officially classed as Moslems, and none are officially treated as rayahs, like the Christians.

The parts of the peninsula most affected by nomadism are the central steppes and the mountains of the south and south-east.

Similar causes of feud exist between the older settled population, including in this case the nomads who are in process of settling down, and the large numbers of Muhajirs, or immigrants of Moslem religion from neighbouring Christian states, who have been given land throughout Anatolia in recent years. The older inhabitants resent the intrusion of these immigrants, who occupy much land formerly available for pasture. Between the quarrelsome and predatory Circassian immigrants and their Turkish neighbours there is a standing feud everywhere. The Rumeliote Muhajirs are more popular. On their side the Muhajirs, who have one and all been induced to migrate to Anatolia with promises which are never more than half fulfilled, are unhappy and discontented; they one and all pine for the homes they have left.

The situation is well summed up in the following passage from Ramsay's *Impressions of Turkey*, p. 94 f.

'One of the facts that are most striking to the traveller in Asia Minor is the interlacing and alternation of separate and unblending races. In half a dozen villages which you visit in the course of a day you may find four or five separate peoples, differing in manners, dress, language, and even religion, each living in its own village and never intermarrying with, rarely even entering, the alien village a mile or two distant. The broad distinction of Christian and Moslem is wholly insufficient and even misleading. The Turkish peasants entertain a stronger hatred towards the Circassian, rigid and pious Moslem as he is, than towards the Greek or Armenian Christian, while they regard the Kyzylbash or heterodox Turkmens with a mingled loathing and contempt, surpassing their worst scorn for the Christian. You often meet a Greek in a Turkish village, sitting in the Oda, apparently in quite friendly conversation with the people; but you will hardly ever see

a Turk in a Circassian village, and rarely a Circassian in a Turkish village, or, if you do, he glares about, feeling himself an enemy among enemies.'

(c) *Officials and non-officials.*—' Impressions ' of the Turkish official, favourable and unfavourable according to individual taste or experience, will be found in most books written by European residents or travellers in Turkey. Our aim is to describe briefly the reciprocal relations of the official and non-official classes.

In theory, the official career is open to all subjects of the Sultan. In practice, the administrative services are manned from a restricted, largely hereditary caste, mainly Moslem (including, in Anatolia, some Circassians and Kurds), with a large number of Armenians filling the lower offices. The officials receive no adequate training, and are poorly paid, if paid at all. The result is that they are tempted, or inclined, to amass wealth from the proceeds of bribery and exaction. Their exactions fall with impartiality on Moslem and Christian alike, and even the Moslem cannot secure justice except at a price in bribes which usually deters him from seeking it. Naturally, therefore, the Turk reduces his dealings with the government to a minimum, and distrusts and shuns the officials. The impression produced in Anatolia by clean and efficient government in neighbouring lands, such as Bulgaria and especially Egypt, has been stronger than is generally realized, and the officials themselves have prepared the soil for a change of administration, which would be welcomed by every Moslem in the country provided it respected religious susceptibilities.

The Young Turks have made an honest effort to improve and cleanse the administration, not without some success. After the revolution, the police in particular were regularly paid, and their former treatment of the peasants discouraged. But the dead-weight of traditional usage, and the total absence of a class from which honest and efficient officials can be drawn, will certainly bring the best-intentioned efforts to nought.

Religious Institutions

The line of cleavage represented by religion has already been discussed (p. 182 ff.). It remains to describe the character and organization of the main religious communities.

Mohammedanism.—Mohammedanism is the established state religion, and the profession of Islam is the touchstone of loyalty as well as the guarantee of privilege. The Sultan, as Caliph, is supreme head, even if he holds this position illegally according to the letter of the Koran. The chief ecclesiastical dignitary is the Sheikh ul-Islam, who is a member of the cabinet. It is characteristic of the political character of the Mohammedan Church that the main functions of the Sheikh ul-Islam are judicial rather than spiritual.

Mohammedans form the vast majority of the population of Asia Minor, and the term is used to include the members of many small sects like the Takhtajy and Ansarie, who are Mohammedans only in name.

A priesthood in the strict sense of the term cannot be said to exist in Mohammedan Turkey. The Ulema, however, or persons connected in one way or another with the official ministrations of Islam, form a separate class. The principal charges in connexion with mosques, theological schools, &c., are to a large extent hereditary.

The temporalities of the state church are controlled by the Ministry of Pious Foundations, or Evkaf, which has a separate budget of its own. The revenue of the Evkaf is principally derived from charges on and reversionary interests in real property which has at one time or another been consecrated to religious or benevolent purposes, and which is known as vakuf. A large part of the urban property of the Empire is vakuf.

The Orthodox Church.—The Orthodox Church bases itself on the theory that wherever there is an independent state, the church within that state has its own government ; properly then there should be only one patriarchate within the Ottoman Empire, but owing to historical reasons there are

in fact four—those of Constantinople, Antioch, Jerusalem, and Sinai. It is sometimes held that the first of these has authority over the others, but the extent to which this is so in practice is very limited. The Anatolian Greeks [1] are under the jurisdiction of the patriarch of Constantinople. There is a minority of Greek Uniates, in communion with Rome.

The matters wherein the Greek Orthodox Church differs from the Church of Rome are partly of doctrine, partly of practice ; in some of both, though not in all, it agrees with the Anglican community. Their chief points of agreement apart from a common rejection of the authority of the Roman Pontiff, are the denial of the doctrine of indulgence and purgatory, and the communion of the laity in both kinds.

With the Anatolian Christians, as we have seen, religion and nationality are identical. This conjunction has had important effects on the history of the Greek church. Since 1453 the Greeks have always spoken with one voice ; their mouthpiece has been their Church. They have been singularly tenacious of their rights, which have all clustered round their Church. In return the Church saved the race. They had privileges granted to them by Mahomet immediately after the conquest. Throughout the centuries which have passed since his time, these privileges have often been confirmed, the latest formal confirmations being in the Hatti Sherif of Gulhane of 1839, the Hatti Humayun of 1856, and the Constitution of 1876. Among their most valuable privileges has been the right of the patriarch on behalf of his flock to make representations to the Sultan and the Turkish authorities respecting the violation of any of the privileges ; and to exercise legal jurisdiction over the members of his community in all matters in dispute among them. The latter concession was in accordance with mediaeval practice, not only in Moslem but in Christian states. It was not long, however, before the jurisdiction was limited to what now exists, to the right of jurisdiction in reference to marriage,

[1] The vilayet of Adana, save for two Kazas of the Sanjak of Kozan, is under the Patriarchate of Antioch.

succession, and questions of personal property. To maintain these privileges the Church has constantly been in conflict with the State. So long as by the Constitution the established religion of the country is Mohammedanism, it is a necessity to the Christian communities that they should maintain their own courts. Family life being the basis of such communities, so long as the State does not recognize it, the Christians must be permitted to exercise jurisdiction in regard to such matters as bigamy and right of succession.

The Greek Church in Anatolia is miserably poor, the clergy are ill-paid, and the standard of education among them very low. They all strike an Englishman as being political agents first and foremost and priests a long way after. But they are honest and clean-living.

The Armenian Church.—The National Church of Armenia is called the Gregorian, because the conversion of the nation was largely due to Gregory the Parthian, known as 'the Illuminator' whose great work was accomplished in 301, when Christianity was adopted as the established religion. The kingdom of Armenia was thus the first state to erect Christianity into the national faith. The Church adopted only the decisions of the three great Councils—Nicaea, Constantinople, and Ephesus—as against the seven recognized by the Orthodox Church. The history of the Armenian Church is a long martyrology, but it has always maintained a powerful hold over the race. Armenians felt the influence of Hellenism very slightly. They were always iconoclasts with a strong conviction in favour of monotheism—traits which show a certain spiritual kinship with the Moslems.

The Armenian patriarch has no territorial title—he is called 'Patriarch of all the Armenians'. He resides in Constantinople. While the government of the Church is in his hands, aided by his council, the spiritual head is the Catholicos, who resides at Echmiadzin, in Russia. Although the majority of Armenians are found in Armenia, there is no province or important city in the empire which is without them.

A large number of Armenians have gone over to the

Catholic communion, and form a Uniate community, known as the Armenian Catholic Church. This community has on several occasions enjoyed the protection of the French and Austrian Governments.

Protestant communities, mainly formed as the result of the teaching of American missionaries, exist in many places. They form a distinct *millet*.

Manners and Customs

Mixed elements.—In keeping with its diversified cultural origin, the social custom of the Anatolian population is a patchwork of Byzantine-Christian, Arabian-Islamic, and Central Asiatic elements on a solid autochthonous background. Age-long custom determined by soil and climate, government by a caste which still retains traces of all the stages in its progress from the steppes of Central Asia to the rich inheritance of the Emperors of Byzantium, and the spiritual and social predominance of Islam fix the large traits of social life for old population and immigrant alike. It is often difficult to assign its origin to a particular custom, or to prophesy regarding its retention or disappearance. Thus the habit of moving into 'yailas' in summer, which characterizes a large part of the population, sometimes corresponds to the 'semi-nomadic' stage in the settling down of true nomads, sometimes is simply the age-long habit of moving from winter village to summer village and back again which is imposed by the variety of climatic conditions in a limited area. Under one aspect the custom is transient, and may disappear; under the other it is a permanent way of life.

Islam, with its contemplative outlook, its dignified and courtly forms, its quiet submission to established authority, influences Moslem and non-Moslem alike, and even the Christian communities wear a strong Moslem aspect to the European eye. As an example, the seclusion of women, and their employment in all the drudgery of everyday life, while more pronounced among the Moslems, is also a Christian

characteristic. Difference in religion brings out sharp contrasts in isolated particulars, but a common, racial origin and a common physical environment produce a level uniformity of custom in regard to dwellings, dress, food, etiquette, industry, amusements, and superstitions which overrules all divergences.

Europeanization.—An external form of 'Europeanization' has made considerable progress in the social custom of Anatolia, affecting both Moslems and Christians, but, as between the two creeds, there exists an instructive difference of attitude to the culture of Europe. Moslems and Christians are united by the similarity of their Oriental culture; both alike are conscious of the deep chasm which divides their civilization from that of Europe. But Christianity and political aspirations bring the Christian peoples into a certain sympathy with European ways. This sympathy expresses itself in varying forms with different individuals and classes. The educated Greek or Armenian adopts European manners as the outward symbol of his acceptance of the modern educated man's view of life. With the uneducated Christians the adoption of the externals of Europeanization is either a bid for higher wages, or mimicry pure and simple. In either case, it is apt to strike the European as grotesque, or even repulsive. But the Armenian with his elastic boots and his broken English, or the Greek in his immaculate lounge suit are the unconscious precursors of a Europeanization which is bound before long to effect more than the clothes of Moslem and Christian alike, and will find its first converts among the Christians.

With the Christian, the frock-coat is often an end in itself; with the Turk it is a means to an end. The ruling caste in Anatolia, while the dogma of Islam keeps them permanently out of sympathy with Christian Europe, are not unconscious of the advantages to be derived from a degree of conformity to European modernism. If the Turkish effendi wears a frock-coat, it is in order that he may challenge comparison in the eyes of his fellow Moslem with the progressive Franks,

and prove his capacity for leadership among the nations in the circumstances of modern times. To this end he is prepared to bow the knee to modernism in almost any form, even if he is not prepared to abandon his distinctive culture in the process.

Economic Capacity of Population

Moslems.—The great majority of the Moslem inhabitants are engaged in agriculture, stock-breeding, and other rural pursuits. As a whole, they are honest, frugal, and industrious, but lack enterprise and imagination, and their agricultural methods differ little from those depicted in the Old Testament. Cultivation is carried on with primitive implements, and the land produces not a fraction of what it would yield under a scientific system of agriculture. The Moslem immigrants from Russia and the Balkans, whose numbers have increased rapidly in recent years, are good farmers and stock-breeders ; they have introduced better methods of agriculture and have considerably raised the average economic status of the agricultural population. Their example has not been without effect on the older population. Particularly along the railways, much has been done recently to raise the level of agricultural production. Modern implements and machinery have been introduced with successful results.

A considerable part of the population of the central plains, especially the Turkmens, Yürüks, and Kurds, is still nomadic. The great extent of pasture land, with its uncertain rainfall and varying water-supply, makes nomadism a permanent way of life in central Anatolia. The uncertainty of the nomad's livelihood makes him a ready robber, and the protection of settled districts against the nomads has always been a duty of Oriental governments. The Porte has long attempted to solve this problem by inducing or forcing the nomads to settle down, and its efforts have been largely successful. But it cannot be assumed that nomadism can be permanently rooted out ; indeed over great part of the steppes it is the only possible way of life, and its disappearance

would result in great economic loss. In particular, the nomads produce transport animals, wool, and hides.

Town life resembles that of mediaeval Europe. Arts and crafts are carried on in small workshops, and the guild is the highest form of industrial organization. Carpet-making, saddlery, pottery, brass and copper work, and silks, are among the few crafts which have withstood the competition of Europe. Commerce on the large scale is largely concentrated in the coast towns, and is in the hands of native Christians or Europeans. Skilled labour is scarce, and labour for industrial purposes is poor. Even for the making of the railways, large gangs of Italian navvies were introduced. The Moslem natives hardly rise above navvying. All technical and semi-skilled work on railways, in mines, factories, &c., is done by Europeans, or by Greeks and Armenians. On the railways, Moslems are only employed as surfacemen, porters, and booking-office clerks.

In trade, the Turk is scrupulously honest, but dilatory and unimaginative.

Christians. Among Christian subjects of the Porte, Greeks predominate in the west of Anatolia, and along the north coast, Armenians in the east, and their economic position is roughly similar in either region. The Greeks provide farmers, doctors, lawyers, teachers, bankers, brokers, miners, mechanics, carpenters, masons, barbers, and innkeepers. They are clever and industrious in handicraft, skilled seamen, quick at seizing new ideas, and good at languages. Except as seamen, the Armenians occupy similar positions. They also engage in agriculture in the country, and in the towns are mainly traders, artisans, subordinate officials, and tax farmers. The Greeks and Armenians between them have sufficient economic capacity to make Anatolia compete on equal terms with other Mediterranean countries, if the Moslems would content themselves with agriculture, soldiering, and government. Turkish oppression has turned the high natural capacity of both races to ways of petty covetousness and untrustworthiness.

Distribution and Density of Population

The distribution of settlements in Anatolia is conditioned by the character of the country, with its large uncultivable tracts surrounding and isolating patches of fertile soil. Villages and towns crowd on each other in the most favourable places, widely separated from other groups by mountain or desert. The density of the population for a given square mileage is thus both difficult to ascertain and largely irrelevant when ascertained. It is easy for the statistician to spread the population of a few square miles over a large area, most of which is uninhabited.

Apart from the coast, most of the towns and villages consist of one-storey or two-storey houses, sometimes crowded so closely together that the roof of one house is the area of the next, sometimes scattered about in extensive gardens. It is thus very difficult to estimate the population of a settlement from the area it covers, and many current figures are based on such estimates.

Excepting the nomads, all the population, even the agricultural population, lives in towns and villages. The different races and sects regularly live in separate villages, or in different quarters in the larger villages and the towns. There is practically no intermarriage between the different Moslem races, none whatever between Moslems and Christians, and very little between Greeks and Armenians. There are many Armenian and Greek villages in the east of Anatolia, and many Greek villages in the west. In all the large towns there are Greek, Armenian, and Jewish quarters.

Increase and Decrease of Population

Emigration and Immigration.—In Anatolia a consistent State policy has long interfered with the normal increase or decrease of the different sections of the population. This policy aims at maintaining the predominance of the Moslem element at the expense of the native Christian groups, while

leaving the Jews and Levantines alone. In the absence of all reliable statistics, it is possible only to state the results of this policy in general terms.

The Christians, and especially the Armenians, are exceedingly prolific, and, if left to themselves, would grow rapidly in numbers. On the other hand, the native Moslem population is steadily declining, owing to poverty, disease, and especially conscription, which weighs most heavily on the Moslem manhood of Anatolia. A continuous stream of Moslem immigration, encouraged to this end by the Turkish Government, keeps the numbers of the Moslems at most stationary. These immigrants themselves die out even more rapidly than the older Moslem inhabitants. To redress the balance, the numbers of the Christians are kept down by oppression and massacres. Many Armenians have emigrated to the Caucasus, Europe, and America.

CHAPTER V

GOVERNMENT AND ADMINISTRATION

Introduction — The Capitulations — Constitution and Parliament — The Sultanate — Local Government — Provincial Departments — Imperial Departments — Justice — Courts — Departments of Revenue — Departments relating to the Convenience of the Public — Education — Administrative Divisions of Asia Minor.

Introduction

Before the beginning of the sixteenth century the Turkish Government was an Oriental despotism based on force. The Sultan resembled a feudal War-Lord receiving obedience from a number of feudal sub-chiefs. In 1517 Sultan Selim the Grim usurped the Caliphate, seeking to unite the spiritual and temporal power in the person of the Sultan of Constantinople, and to make the Ottoman Government a theocracy deriving its inspiration from the Koran. At the time of the capture of Constantinople in 1453 the Turkish state already rested on an Islamic basis, and Mohammed the Conqueror decided that the religious and purely internal affairs of the Orthodox Christian communities which had survived the Turkish conquests should be delegated to their respective religious heads, the chief of whom was the Orthodox Patriarch of Constantinople. The Jewish community was similarly dealt with. The Turkish conqueror could only, under the Sheriat, or religious laws, deal directly with infidels when they were slaves. Consequently he did not deal with the affairs of their communities, which were called *millets*, i. e. ' nations '. There was also the incompatibility of Koranic law with Christian jurisprudence, as a Moslem court could not admit the testimony of a Christian against a Moslem. The Christians, called *rayah*, had no real rights and were treated as helots. Until 1839 there were four

such non-Moslem millets: the Greek, Armenian, Roman Catholic, and Jewish. Subsequently the Bulgarians, Maronites, Nestorians, and Protestants were also recognized. The fact that the Patriarchs and the other religious heads were the recognized channels of communication with the government gave them a position of considerable influence and prestige. Foreign Christians had an analogous position. In virtue of the Capitulations (i. e. the Treaties conferring certain privileges, especially the privilege of extra-territorial jurisdiction within Turkish boundaries on the subjects of another state), they were subject in common law cases to the jurisdiction of their own consuls and embassies, but were not allowed to hold real property.

The Capitulations

The Capitulations themselves were really survivals of legal conceptions familiar to the Roman and more especially the Greek Empire. Under the latter, foreigners were permitted to form colonies on Greek territory which were governed by their own laws and administered by their own magistrates. This was not viewed as a privilege so much as an obligation. The privilege consisted in being allowed to reside on the foreign territory,[1] but those enjoying that privilege must govern themselves. The rulers of the country in which the colony was placed were unacquainted with the laws or usages of the foreign residents and did not trouble themselves with their internal affairs except when these threatened to disturb public order. One of the earliest treaties or Capitulations known was made between the Greek Emperor and the Warings or Russians in 905. When the Turks conquered Constantinople, in 1453, they found Capitulations existing, and the Sultan, within a few days after the capture of the city, confirmed generally ancient Capitulations in favour of the people of Galata and the Genoese,

[1] This principle of law corresponds to a view firmly held by the Moslem population, and often expressed in conversation and the press, that the Christian rayahs are *permitted* to live in Turkey, and have no right to complain of deportation.

though he would not allow their fortifications to remain. The Capitulations given to France in 1535 were of great importance, because they formed the basis upon which all European nations obtained similar treaties. The privileges granted to the English were formally confirmed as Capitulations in 1593, under Sir Edward Barton, the English ambassador; they were renewed and added to in 1675, receiving a few subsequent modifications referring almost exclusively to commerce. Until the Capitulations were abrogated altogether, in September 1914 (see below), the English treaties of Elizabeth and Charles II remained unchanged, so far as the legal status and immunities of British subjects were concerned. Each nation sought to obtain the best possible conditions, and each Capitulation came to contain the 'most favoured nation clause'. The effect was that the subjects of all foreign nations were under the same regulations, and thus the Capitulations, taken together, formed a body of law applicable to all foreigners residing in the Turkish Empire.

Constitution and Parliament

The Constitution still theoretically in force, although suspended by martial law, is that of 1876, somewhat modified in its details by legislation subsequent to 1908. The Constitution of 1876 provided for the security of personal liberty and property, for the administration of justice by irremovable judges, the abolition of torture, the freedom of the press, and the equality of all Ottoman subjects. Islam was declared to be the religion of the state, but freedom of worship was guaranteed and all persons were eligible to public office, irrespective of religion. Parliament consists of two houses, a Senate and a Chamber of Deputies. Senators should be at least 40 years of age and are appointed by the Sultan for distinguished services. For the election of deputies one electoral delegate has to be chosen for every 600 electors, and these electoral delegates choose one deputy for every 6,000 electors. Electors must be Ottoman subjects of at least 25 years of age; there is no distinction of race or creed. The delegates must be at least 30 years of age. Civil

or military officials may offer themselves for election, but must immediately resign their posts on being returned.

Martial law was proclaimed at Constantinople in April 1909, for a period of one year : it has been renewed at intervals and has been in force throughout the war.

The periods when parliament has not been sitting have been most prolific in legislation, owing to the practice of promulgating ' provisional ' laws on the responsibility of the executive, thanks to a liberal interpretation of an article of the Constitution sanctioning urgent measures in moments of emergency between sessions. In 1914 a large number of laws had been promulgated by the Young Turk party requiring ratification by parliament. Among them were laws simplifying judicial procedure and facilitating the holding and transfer of land. Negotiations were pending in 1914 for the application to foreign residents in Turkey of a new law levying a kind of income tax, at a rate calculated to amount to about 4 per cent. Hitherto foreign residents had been exempt, by treaty and usage, from all direct taxation, except on such real property as, under the existing legal system, they were able to hold. There were also negotiations for promulgating a law providing for the registration in Turkey of foreign limited liability companies which would impose upon all foreign insurance companies doing business in Turkey the deposit of security, fixed at £5,000 for each branch of insurance, fire and life, and £2,000 for other branches, with a maximum of £12,000 for any one company. A new law on the registration of trade marks was also being prepared.

The greatest single change introduced in 1914 was the abolition of the Capitulations by a decree of the Sultan on September 9. It had long been felt that the extra-territorial privileges enjoyed under the Capitulations needed revision, especially in so far as they exempted foreigners from fiscal burdens ; but their abolition by a unilateral Act gave rise to a unanimous protest of the Powers. This step, which included the suppression of foreign post offices and of the International Board of Health, was taken after the outbreak

of the European War, and the condition of Europe made the protest of the Powers ineffective for the time being. Six weeks after the denunciation of the Capitulations, Turkey herself had entered the War.

The Sultanate

By the law of succession obeyed in the reigning family, the crown is inherited according to seniority by the male descendants of Osman sprung from the imperial harem. All children born in the harem, whether offspring of free women or of slaves, are legitimate and of equal lineage. A council presided over by the heir apparent and comprising several State dignitaries, the Grand Vizier, the Sheikh ul-Islam, and others, was instituted in January 1914, to regulate all matters relating to the imperial family, including the *Damads* or persons married to imperial princesses.

For centuries it has not been the custom of the sultans of Turkey to contract regular marriages. The inmates of the harem come, by purchase or free will, mostly from districts beyond the limits of the empire, the majority from Circassia. From among these inmates the Sultan designates a certain number, nowadays very limited, to be called *Kadyn* or full wives. The title is only given after a child has been born to the Sultan. Ladies of inferior standing on whom the Sultan has looked with favour are called *Ikbal*, and girls in course of training in the harem are called *Odalyk*. The superintendent of the harem, always an aged lady of the palace, and bearing the title of *Haznadar-Kadyn*, has to keep up intercourse with the outer world through the Guard of Eunuchs.

The civil list of the Sultan is variously reported at from one to two millions sterling. To the imperial family belong a great number of crown domains.

The principal persons in the *Serai* or palace of the Sultan are :

(1) *Kyzlar Aghasy*, chief of the black eunuchs. He has the rank of *Mushir* (field-marshal) ; his status is equal to that of the Grand Vizier, and he has control of the harem.

(2) *Kapu Aghasy*, first officer of the Imperial Chamber,

chief of the white eunuchs. His office is a survival of the *praepositus sacri cubiculi* of the Greek emperors.

(3) *Kazine-Humayun-Vekili*, keeper of the Sultan's privy purse, a black eunuch.

(4) *Hakim-Bashy*, chief physician, under whom are 12 physicians in ordinary.

The personnel of the Serai under Abdul Aziz (1861 to 1876) amounted to about 3,000. Since 1908, the Serai has been maintained on a much more modest scale.

Local Government

From 1453 to the beginning of the nineteenth century the Turkish State was a loosely-jointed structure. The Turk lived on his conquests, and his organization was purely one adapted to the needs of war.

The Sultan delegated most of his religious authority to the Sheikh ul-Islam, who appointed the religious functionaries in the provinces and supervised Islamic concerns. The Sultan similarly transferred a certain amount of his temporal power to the Grand Vizier, through whom all the high officers of State, both in the capital and the provinces, were nominated. The Empire was at first divided into immense provinces called *Eyalets*, presided over by a Pasha of three Tails, e. g. the Pasha of Belgrade was Viceroy of all Turkey in Europe south of the Danube; but these Eyalets were abolished, and between 1861 and 1866 Turkish territory was divided for administrative purposes into *Vilayets*. The Vilayets or provinces are governed by a *Vali*, or governor-general; these are again divided into *Livas*, *Sanjaks*, or *Mutesarriflik*s under *Mutesarrifs* or lieutenant-governors; these being in turn divided into *Kazas* administered by a sub-governor called a *Kaimmakam*; finally the Kaza may be divided into *Nahies* presided over by a *Mudir*. In each *Karie*, or village, there is a *Mukhtar* or headman.

The Vali is appointed by the Sultan and resides at the capital of the Vilayet. He represents the Government in all its branches, except military and judicial matters, and the

different heads of public departments are under his immediate authority. The other authorities in the capital of the Vilayet are the *Defterdar* (accountant-general) who deals with finances, and a *Mektubji* (secretary-general) who is chief of the police and director of the various State departments. The Vali is further assisted by an Administrative Council (*Idare Mejlis*). In the absence of the Vali, the Defterdar or Kadi [1] usually acts for him. The Sanjak is governed just as a Vilayet on a smaller scale. The Mutesarrif is appointed by Imperial decree. He represents the Vali, corresponding with the Government through him, except in special circumstances, as, for example, when the Sanjak is what is called an independent Sanjak (see following paragraph), as e. g. the Sanjak of Karasi. In such exceptional cases the Mutesarrif corresponds directly with the Ministry of the Interior. The Sanjak has a finance officer (*Muhassebeji*), a secretary (*Tahrirat Mudiri*), and representatives of the various ministries, and an Idare Mejlis. In addition to the Kaimmakam who presides over each of the Kazas into which the Sanjak is divided, the chief town of a Sanjak has also its Kaimmakam, appointed by the Government. Each of the Nahies, into which the Kaza is further subdivided, consists of at least 200 houses, and is either a single village and its lands, or a district.

The division of the Ottoman Empire into Vilayets has been frequently modified of late for political reasons. For similar reasons several of the Sanjaks are governed by Mutesarrifs who, as stated above, report directly to the Ministry of the Interior. The tendency has been to increase the number of these so-called 'independent' Sanjaks by detaching ordinary Sanjaks from the Vilayets to which they have hitherto belonged. The whole system of provincial administration has been the subject of a great deal of experimental legislation since 1908. A new and comprehensive 'Law on Vilayets' was promulgated by the executive in March 1913, but has been of little practical effect.

Every civil officer from the Vali downwards is assisted by

[1] See below, p. 209.

a civil administrative council of which he is *ex-officio* president, composed in part of officials and in part of non-official members who are selected by the local government from short lists of names submitted by the communities concerned. Even the village Mukhtar has a council. These councils have only advisory powers, and meet about four times a year. The headquarter towns of Sanjaks and Kazas are organized as municipalities, and the affairs of each are supposed to be administered by a municipal committee. These committees have no more powers than the administrative councils. In many instances they are at liberty to expend only a few shillings annually. Naturally few signs of municipal activity are observable.

Hitherto the Valis have had no power of appointment over their subordinates. The local councils with their limited, or rather non-existent, powers, are mere shadows. The Valis have no concern with, and no power or control over, one-half of the administrative machine, viz. the Departments of Public Justice, of Land Records, Posts, and Telegraphs, Religious Endowments, Customs, Public Debt (which was virtually the Excise Department), the Tobacco and Salt Monopolies, Public Instruction, and Sanitary Service. The local chiefs of the Imperial Departments receive their orders direct from, and report direct to, Constantinople. Copies of such orders are sometimes sent to the Vali for his information, and it is his duty to investigate complaints against the proceedings of any Imperial Department in the Vilayet.

All Ottoman subjects, however humble their origin, are elegible to, and may fill, any State office up to the highest. But power has been concentrated in the hands of an official class, largely hereditary, whose distinction in character and outlook from the remainder of the population is very marked. Under Abdul Hamid government rested on a system of espionage and public coercion, which penetrated into every house in the country. After the Revolution the local authorities had a freer hand ; but all power rested with the Committee of Union and Progress, which controlled Parliament and dictated all appointments.

The patriarchal government of large tracts of Anatolia by independent chieftains or Dere Beys, in vogue in the early part of last century, has everywhere ceased, often to the detriment of the peasants, who have now no one to protect them from the Government officials. These include a large number of Armenians, whose command of languages and of administrative detail renders them indispensable to the slower-witted Osmanli. The system of 'bakshish' pervades administration and the law-courts; the business of the official is to grow rich quickly, the public services are starved, and the public fleeced.

That mutual confidence on which democratic government ultimately rests is absent in Anatolia, not only as between the different races and creeds, but as between the members of each race and creed. Although government now rests nominally on a democratic franchise, it appears inevitable that power will continue to be centralized in the hands of a despot or of an irresponsible oligarchy such as the Committee of Union and Progress. Capacity apart, the Anatolian population has no real belief in self-government. They long, without exception, for an honest and efficient administration. Whether they would prefer the moderate amount of honesty and efficiency which is all they can expect under the most enlightened native government, or the higher standard of administration and justice which they know to obtain in Egypt or Tunis, is a question which different Anatolians would answer differently. It is certain that in the years of disillusionment which followed the Revolution the great majority of the natives would have welcomed any government but the Turkish. The success of British administration in Egypt, and the example set by foreign schools and hospitals, especially the American, have provided the natives with a standard by which to judge the similar efforts of their own Government.

Provincial Departments

The Vali is the head of the non-Imperial, otherwise the Provincial Departments, which are: (*a*) the gendarmerie, (*b*) the civil police, (*c*) the revenue-collecting establishment

and department of general accounts. The Vali is also the political representative of the Ottoman Government in his own vilayet, and the conduct of all dealings with foreign consular officers or foreign subjects and with semi-independent tribes is in his hands. He has no authority over the troops of the regular army in his province, but he can summon the military commander to take such steps as may be necessary for the attainment of political or administrative ends. Occasionally, for very special reasons, the same officer might be invested with the highest civil and military authority in the same vilayet ; but as a rule the late Sultan had too great a distrust of his officers to put much power in their hands.

As far as the Provincial Departments were concerned, the maintenance of law and order throughout the country in times of peace depended on the force which was officially called the *gendarmerie*, but better known as *zapties*. Its organization was military, and the force was under the control of a special section of the Turkish War Office ; but it was distributed under the orders of the civil authorities as a military police. One-half of the zapties were mounted, the other half were infantry. They were commanded in part by officers seconded from the regular army, and, apparently in somewhat larger part, by civilians who held special commissions. The strength of the gendarmerie in each vilayet varied with local conditions. As a rule they were scattered up and down the country in small detachments, and, besides their proper duties, were employed on all kinds of miscellaneous work, such as collection of revenue, furnishing of garrisons for posts, escorts for travellers, &c. The men are described as not smart in appearance, but as useful and hardy. Whether the actual strength corresponded with the nominal strength of each troop and battalion is doubtful. Their pay was very often in arrears.

In the larger centres of population and in places of administrative importance there was a purely civil police, whose authority did not extend to the surrounding villages or open country. Its numbers were small, and, when they required

men, the officers of the civil police were entitled to make use of zapties.

The tax-collecting and revenue account departments were relatively small in numbers, as the taxes of which they had charge were mostly farmed; however, the departments provided lucrative posts.

Imperial Departments

Of the imperial departments there are three classes: (1) Public Justice, (2) Revenue Departments, (3) Departments relating to the convenience of the public.

Public Justice

The laws of the empire rest in principle on the basis of all Sunni Moslem law, i. e. the Koran, the *Hadith* or traditions of Mohammed, and the reported sayings and actions of his immediate successors. This religious law, called as a whole the *Sheriat* law, has been to some extent codified, as in the *Mejelle* or Civil Code which was drawn up in 1869–76 and embodies the prescriptions of the religious law in regard to certain specified matters, like sale, &c. The bulk of modern legislation, however, is not connected with the *Sheriat* law, but consists of statutes enacted by successive sultans in virtue of their absolute authority, or later by way of sanction to measures adopted by parliament. Much of this statute law, including the great Codes of Criminal and Commercial Law and the Codes of Procedure, dates from the 30 or 40 years following the Hatti-Sherif of 1839. The Codes mentioned were based almost entirely on French models, and, though not a little modified by subsequent measures, they still remain in force in all their main lines. The enactment of laws and regulations on European models has continued since the middle of the nineteenth century, and received an enormous impetus with the renewal of the Constitution in 1908, since which date a very great number have been enacted. Corresponding (though only roughly, because the *Mejelle*, for instance, is applied by the

lay courts also) to the two varieties of law there is a double system of law courts. The lay courts, called in Turkish *Nizamie*, date, like the Codes, from the middle of the nineteenth century, and are modelled closely on the French system. Dealing as they do with all criminal, commercial, and ordinary civil business, they are now of preponderating importance: but side by side with them there continue to exist the religious or *Sheriat* Courts which take cognizance of certain specified matters, notably those relating to the title to certain categories of real property and all matters relating to the personal status of Moslems.

Experiments have been made in connexion with the judicial system. The most notable of these has been the institution of *juges de paix* by a law of April 1913, and that of 'single-judge' Courts of first instance to replace the ordinary Courts on the French model in the Vilayet of Adrianople. This latter measure, enacted in October 1913, was a tentative one, which, if successful, it was proposed to extend later to other provinces. In May 1914, a British Inspector-General, to whom it was intended to give wide powers of reorganization, was appointed to the Ministry of Justice. His functions, however, were terminated by the outbreak of war.

Courts

There are four kinds of courts: Ecclesiastical, Criminal, Civil, and Commercial.

Only questions arising under the law of the Koran are cognizable by the Ecclesiastical Courts. The judges are *Kadis*, recognized and paid by the government, one being established at the head-quarters of each Vilayet, Sanjak, and Kaza. Appeals lie from the lower to the higher *Kadis*, and from the latter to the Sheikh ul-Islam at Constantinople. Authorized and officially recognized jurisconsults, or *Muftis*, exist at the head-quarters of each Vilayet and Sanjak, whose duties are to resolve legal difficulties and give authoritative opinions under the *Sheriat* law, especially in questions connected with inheritance and marriage.

The Civil and Criminal Courts are divided into Courts of the First Instance, located at the head-quarters of each Vilayet, Sanjak, and Kaza : High Courts at the head-quarters of each province, and the supreme Court at Constantinople which has only appellate jurisdiction. Each of these three tribunals has a civil and criminal side, the judges in each being distinct. The language of the courts is Turkish. The civil judges are all Mohammedans ; in criminal courts non-Mohammedans are included on the Bench. Crime is divided into petty, ordinary, and heinous. The courts are assisted by a Public Prosecutor and his subordinates. Courts of the First Instance dispose of cases of petty crime without appeal, except on a point of law. Before charges of ordinary or heinous crime are tried, the accused appears before an examining Magistrate, who after investigation either discharges the accused or commits for trial—in the case of ordinary crime to the Court of the First Instance, in the case of heinous offence to the High Court. In each instance an appeal lies from the court trying the case to the court immediately superior to it. No charge against a British subject could proceed except in the presence of a British Consul, and no sentence on a British subject was valid until concurred in by a British consular representative ; differences of opinion between a court and consul were referred for settlement at Constantinople to the British Ambassador and the Turkish Minister of Justice.

Commercial courts at the head-quarters of vilayets deal with mercantile suits, cases relating to bills of exchange and promissory notes and matters of the kind, subject to appeal to the local High Court on the civil side. If a foreign subject were a party to a suit in the Commercial Court, one or two assessors of the same nationality as the foreign subject were added to the Court ; the proceedings were watched by a representative of the foreigner's consulate, and an appeal lay to the Chief Commercial Court at Constantinople. The scheme of justice has been incurably vicious in practice on account of interminable delays and gross corruption.

Imperial Department of Revenue

The revenue is derived from tithes, land and property taxes, sheep and cattle tax, customs, monopolies such as tobacco and salt, and other sources ; the largest portions of the expenditure are for military purposes and for debt charges.

Since the restoration of the Constitution in 1908 a Budget and a Finance Law have been voted or enacted by the Executive each year. Under normal circumstances the receipts of the Treasury are roughly 25 to 30 million Turkish pounds. Each year there has been a deficit of from 3 to 8 million Turkish pounds. Loans and special surtaxes have been resorted to in the endeavour to secure equilibrium.

For the civil and religious administrations 21 per cent. of the general expenditures has been allotted. The ordinary expenditure for military establishments constitutes 28 per cent. of the budget.

These items correspond to the ordinary annual appropriations under these headings, and are in no way related to the extraordinary credits and expenditures caused by the state of war. The total war expenditure of Turkey to March 31, 1917, is placed at £T.132,000,000.

In April 1914, the Turkish National Debt stood at £151,656,007 of which nearly 18 millions was secured on the Egyptian tribute. Of the total debt, France held 62 per cent. and Germany 29 per cent. The Public Debt is administered by a Council in Constantinople who hold, for distribution among the bondholders, the funds derived from the excise duties and from several other sources. This Council dates from 1881, when the Ottoman Government made an arrangement with its creditors. The machinery of the Public Debt has been utilised in order to give greater security to foreign capital in connexion with various loans subsequent to 1881, amounting to nearly £86,000,000, so that the Council collects and administers on behalf of the Government a large revenue independently of that derived from the ' ceded revenues ' affected to the service of the older debt.

The Department of Public Debt is represented by superintendents at provincial head-quarters, with assistants at all important places and travelling inspectors. The principal sources of revenue made over to the Public Debt for management were fisheries, liquor, salt, silk, and stamps: it is practically an Excise Department.

The Tobacco Monopoly is in the hands of a company known briefly as the Régie, which holds the lease or farm of the manufacture, collection of duty, and sale of tobacco throughout the Turkish Empire. Its offices are at the head-quarters of the vilayets, with branches at the principal centres of tobacco cultivation. The duty appears to have been 1*s.* 3*d.* per $2\frac{1}{2}$ lb. (7·8 gold piastres per kilogram) of superior quality, and 7*d.* (3·9 gold piastres) per the same weight of inferior quality of tobacco. Persian tobacco, which is largely imported for smoking in *nargiles*, paid an import duty of 6*d.* per $2\frac{1}{5}$ lb. (3 gold piastres per kilogram).

The tithes are collected by tax farmers, who often contract with the Government for a larger sum than the nominal value of the revenue from the district in question, and recoup themselves by exorbitant exactions.

Customs are one of the most important sources of revenue. By agreement with the Powers the import duties were raised in 1907 to 11 per cent. *ad valorem*. The export duty was 1 per cent. *ad valorem*, and a refund of 10 per cent. *ad valorem* was permitted on goods exported within six months of importation. Without an agreement with the Powers, these duties were enhanced from time to time by the device of requiring stamps of varying denominations to be affixed to documents presented to the Customs House. In some cases this imposition entailed as much as 50 per cent. addition to the customs duty proper. The administration of the customs was highly corrupt.

Departments relating to the Convenience of the Public

These departments are as follows: Posts and Telegraphs, Public Health, Religious Endowments, Public Instruction.

The Department of Religious Endowments is represented by accountants at the provincial head-quarters.

Education

Elementary education is nominally obligatory for all children of both sexes. The most recent enactment on the subject is a Provisional Law of October 6, 1913. Under this law children from 7 to 16 are to receive primary instruction, which may, however, be given in State schools, schools maintained by communities, private schools, or, subject to certain tests, at home. The State schools are under the direct control of the Ministry of Public Instruction, which also provides for the inspection of schools maintained by non-Moslem communities. The Mosque schools (*Mektebs*) give the rudiments of education to Moslem boys—reading, writing, and arithmetic—using the Koran as the basis of instruction. Besides these, there survive a large number of *Medresses* or theological seminaries connected with religious foundations. There are a few secondary and collegiate institutions at Constantinople maintained by the Government and secular in character, modelled on the French *lycées* and intended to fit boys for the special and technical Government schools. Such are the Imperial Ottoman Lyceum, the *Idadiye* school, and the *Rushdiye* school at Constantinople. Turkey has a reasonably well-developed system of special and technical schools, dealing with such subjects as mines, forests, medicine, the army, civil service, artillery and engineering, the navy, fine arts, &c. There are middle-class schools for boys from 11 to 16 years of age. In a few schools French and English are taught. Training schools for teachers also exist.

The general level of efficiency of the State schools is not high. The Mohammedan *bourgeoisie* can read, write, and count; few of them, except officials and residents in the coast towns, know a European language (generally French). The Mohammedan peasants are totally illiterate. The best native schools are those maintained by the Greeks, who show by far the smallest percentage of illiterates. Most Greeks,

even in country villages, are masters of the 'three R's'; like the Armenians, they generally write Turkish in the characters of their own language. The Greeks and the Armenians are both interested in education; but the Greek rises above the Armenian in his appreciation of education as an end in itself.

The Turkish University, which was nominally founded in 1900, has been reorganized since the change of régime in 1908. It now comprises five faculties, viz. arts, theology, law, medicine, and science. The Imperial Museum at Constantinople has a fine archaeological collection.

There are a large number of foreign schools. Protestant and Roman Catholic missionaries have many such schools and colleges. Special mention should be made in this connexion of the American missions. The most important of the American schools are those in Adabazar, Adana, Hajin, Kaisari, Kharput, Konia, Malatia, Merzifun, Sivas, Smyrna, Talas, Tarsus, and Trebizond. There are colleges in Arnaut Köi (for women), Constantinople (Robert College, for men), Kharput, Merzifun and Tarsus.

There are hospitals attached to a number of the schools and colleges. No attempt is made to interfere with the religious tenets of the students and sound instruction is given in Turkish, ancient and modern Armenian, English, Mathematics, Chemistry, Geology, Moral Philosophy, &c. The education in the girls' schools is sound and specially adapted to fit them for their domestic duties. A large proportion of the students are Armenians and Greeks, and many come also from the Balkans and southern Russia. One notable result of the American educational efforts is that in most towns and villages in the eastern part of Asia Minor English-speaking Christians are found.

Administrative Divisions of Asia Minor

The area covered by the Handbook of Asia Minor includes the following (pre-war) administrative divisions:

I. The Asiatic kazas of the Vilayet of Constantinople, Skutari, Gebze, Kartal, Beykoz, and Shile.

II. The Sanjak of Izmid, subdivided into the kazas of Izmid, Kandra, Adabazar, Karamursal, and Geive.

III. The Vilayet of Khodavendighiar (or Brussa), covering the following :

1. The Sanjak of Brussa, subdivided into the kazas of Brussa (seat of the Vali), Gemlik (Kios), Mikhalij, Mudania, Kirmasti, and Adranos.

2. The Sanjak of Ertoghrul (chief town Bilejik), subdivided into the kazas of Bilejik, Sügüt, Inegöl, and Yenishehir.

3. The Sanjak of Kutahia, subdivided into the kazas of Kutahia, Eskishehir, Ushak, Gediz, and Simav.

4. The Sanjak of Kara Hissar Sahib, subdivided into the kazas of Afium Kara Hissar, Bolavadyn, Sandykly, and Azizie.

5. The Sanjak of Karasi, subdivided into the kazas of Balikesr (seat of the Mutesarrif), Aivalyk, Kemer, Edremid, Artaki, Gönen, Panderma, Bighadij, and Sindirgi.

IV. The Sanjak of Bigha, covering the kazas of Kale Sultanie (Dardanelles), Bigha, Ezine, Lapsaki, and Aivajyk.

V. The Vilayet of Aïdin, covering the following :

1. The Sanjak of Smyrna, subdivided into the kazas of Smyrna (seat of the Vali), Nif, Kara Burun, Kush Adasy, Cheshme, Ödemish, Vurla, Focha, Bayndyr, Menemen, Bergama, Sivri Hissar, and Tire.

2. The Sanjak of Sarukhan, subdivided into the kazas of Manisa, Alashehir, Kula, Ak Hissar, Salykhly, Gördiz, Demirji, Eshme, Kyrkaghach, Soma, and Kassaba.

3. The Sanjak of Aïdin, subdivided into the kazas of Aïdin, Nazly, Bozdoghan, Sokia, and China.

4. The Sanjak of Menteshe, subdivided into the kazas of Mughla, Milas, Makri, Budrum, Köijigez, and Mermeris.

5. The Sanjak of Denizli, subdivided into the kazas of Denizli, Davas, Chal, Buladan, Serai Köi, and Kara Aghach.

VI. The Vilayet of Konia, covering the following :

1. The Sanjak of Konia, subdivided into the kazas of Konia, Ak Shehir, Beyshehir, Seidishehir, Ilghin, Bozkyr, Karaman, Khadem, Eregli, Karapunar, and Koch Hissar.

2. The Sanjak of Nigde, subdivided into the kazas of Nigde, Nevshehir, Ürgüb, Ak Serai, Bor, Maden, and Arebsun.

3. The Sanjak of Buldur, subdivided into the kazas of Buldur and Tefeni.

4. The Sanjak of Hamid Abad (chief town, Isbarta), subdivided into the kazas of Hamid Abad, Uluborlu, Egerdir, Kara Aghach, and Yalovach.

5. The Sanjak of Adalia, subdivided into the kazas of Adalia, Elmaly, Alaya, Akseki, and Kash.

VII. The Vilayet of Angora, covering the following :

1. The Sanjak of Angora, subdivided into the kazas of Angora, Chybuk Abad, Ayash, Beybazar, Nallykhan, Sivri Hissar, Mikhalyjyk (chief place, Kapudak), Haimanc (chief place, Yapan), Yaban Abad (chief place, Chorba), Kassaba-i-Bala (chief place, Karaly), Sir (chief place, Istanoz), and Kalejik.

2. The Sanjak of Yozgad, subdivided into the kazas of Yozgad, Ak Dagh Maden, and Boghazlayan.

3. The Sanjak of Kaisari, subdivided into the kazas of Kaisari, Injesu, and Develi (chief place, Everek).

4. The Sanjak of Kyrshehir, subdivided into the kazas of Kyrshehir, Keskin (chief place, Maden), Mejidie (chief place, Boyalyk), and Avanos.

5. The Sanjak of Chorum, subdivided into the kazas of Chorum, Sungurlu, Iskelib, and Osmanjyk.

VIII. The Vilayet of Kastamuni, covering the following :

1. The Sanjak of Kastamuni, subdivided into the kazas of Kastamuni, Ineboli, Zafranboli, Tosia, Arach, Tashköprü, Dadai, and Jidde.

2. The Sanjak of Boli, subdivided into the kazas of Boli, Benderegli, Bartin, Gönik, Gerede, Düzje, Mudurnu, and Hamidie (Divrik).

3. The Sanjak of Changhry, subdivided into the kazas of Changhry and Cherkesh.

4. The Sanjak of Sinob, subdivided into the kazas of Sinob (Sinope), Boyabad, and Istephan (Ayanjyk).

IX. The Vilayet of Tirebsun (Trebizond), covering the following :

1. The Sanjak of Tirebsun, subdivided into the kazas of Tirebsun, Sürmene, Akche Abad, Vakf-i-Kebir, Gerele, Tripoli, Kiresun, and Ordu.

2. The Sanjak of Samsun (Janyk), subdivided into the kazas of Samsun, Fatza, Unie, Terme, Charshembe, and Bafra.

3. The Sanjak of Lazistan, subdivided into the kazas of Rize, Of, Atina, and Hoppa (Kisse).

4. The Sanjak of Gümüsh Khane, subdivided into the kazas of Gümüsh Khane, Torul, Sheiran, and Kelkit.

X. The Vilayet of Sivas, covering the following :

1. The Sanjak of Sivas, subdivided into the kazas of Sivas, Kochkyry, Divrik, Tunus, Görün, Derende, Hafyk, Yildiz, and Azizie.

2. The Sanjak of Tokat, subdivided into the kazas of Tokat, Erbaa, Zile, and Niksar.

3. The Sanjak of Amasia, subdivided into the kazas of Amasia, Merzifun, Vezir Köprü, Gümüsh Haji Köi, Ladik, Khavsa, and Mejid Özü.

4. The Sanjak of Kara Hissar Sharki, subdivided into the kazas of Kara Hissar Sharki, Hamidie, Koïli Hissar, Sushehir, and Alujera.

XI. The Vilayet of Adana, covering the following :

1. The Sanjak of Adana, subdivided into the kazas of Adana and Kara Issaly.

2. The Sanjak of Mersina, subdivided into the kazas of Mersina and Tarsus.

3. The Sanjak of Ichili, subdivided into the kazas of Selefke, Gülnar, Anamur, Ermenek, and Mut.

4. The Sanjak of Kozan, subdivided into the kazas of Sis, Feke, Hajin, and Kars.

5. The Sanjak of Jebel Bereket, subdivided into the kazas of Yarpuz, Osmanie, Islahie, Bulanyk, Khassa, and Payas.

According to the most recent information available, dating from 1919, the tendency noted above, to increase the number of the independent sanjaks, had by that date resulted in the establishment of the following in Anatolia: Afium Kara Hissar, Boli, Eski Shehir, Ichili, Izmid, Janyk (Samsun) Kaisari, Kale Sultanie, Karasi, Kutahia, Menteshe, Nigde, Teke (Adalia).

Further, kazas have in some cases been transferred from one vilayet or sanjak to another, or new kazas have been created. Examples of this will be found in a comparison of the Greek and Turkish estimates of population (Appendix 2, B and C) which date from 1912 and 1914 respectively. The latter was published officially in 1919, and presumably represented the administrative divisions at that date. Map 5 shows the present administrative divisions as accurately as possible.

CHAPTER VI

STOCK-BREEDING; CULTIVATION; TRADE AND INDUSTRY; COMMERCE

Since peasants form the majority of the population of Anatolia, and Anatolian agriculture is centuries behind its proper development, the first step in opening up the country must be the improvement of its agriculture. Proposals which aim at the development of Turkish industry on European lines put the cart before the horse. Such development presupposes a population with purchasing power, which is lacking at present. The pre-war condition of Anatolian stock-breeding, agriculture, and other forms of cultivation is described in this chapter, and some suggestions which have been made for improvements are given.

I. Stock-Breeding

Domestic Animals

These are the horse, the ass, the mule, the camel, the ox, the buffalo, the sheep, the goat. Since the pig is looked on as unclean by the devotees of Islam, it is bred only by the Christian Armenians, Greeks, and Syrians.

Horses

All Ottomans, and the Arabs above all, are enthusiasts for the horse; the possession of horses has always been among them a sign of exceptional prosperity. In spite of this, and contrary to many statements in literature, Turkey appears to-day to be anything but rich in horses. Indeed, sufficient horses for the army are not bred in the country. There are considerable numbers of horses of good breed near Yozgad, Boghaz Köi, and Sungurlu, and large herds are reported in the

plain of Chorum and in the upper Devrez valley. The Circassians in and around the Düzje basin on the south slope of the Ak Ova plain, and north of the Egri Dere, are engaged in horse-breeding. And the fifty to sixty thousand Circassians of the Antitaurus engage in the same pursuit.

If deficient in numbers, the Turkish horses are of good quality. In the first place stands the Arab horse. Not all Arabs display the favourite grey colour; however, the average Arab is distinguished by great docility, quietness, and endurance—qualities which he shares with the baser angular Anatolian horse. Another breed is the Circassian, slim-bodied, often very small, splendid beasts with lovely heads. Other breeds are the Kurdish, a small thickset pony like the Arab, and the Chiftlik horse (farm horse), a fairly strong-limbed, hard, willing, country-bred animal, sprung from a mixture of Arabic, Anatolian, and Hungarian blood.

In Anatolia the price of the different breeds is roughly alike. A very good horse, free from faults, costs about £15. But Arab mares command as much as £200–250. A serviceable stallion, on the other hand, can be bought for £50 and upwards, according to appearance and pedigree.

In comparing these prices with corresponding prices in Europe it must be remembered that money has a higher purchasing power in Turkey, and that the expenses of horse-rearing are much lower than in Europe. In their second year the colts are usually broken in. Although they are only moderately worked at first, the early breaking-in does them harm, especially if the food is insufficient. And the Turk does not feed his horses well. The Anatolian peasant who, in the labouring season, gives his horse a couple of pounds of barley along with its customary meal of chopped straw (*saman*) thinks he gives it quite enough. Oats is quite unknown as a food for horses.

Asses

The oriental ass is not a bit like the headstrong stoic we know in Europe. It is a much livelier animal, and generally

much bigger and stronger than the European. It is true that sorry little beasts are met with, but alongside of them animals as big and sturdy as a middle-sized horse. They are of all colours from black to white.

The ordinary price of the Anatolian breeds is about £1, or up to 36*s*. for good beasts. Its low price and its high capacity for work, even on the poorest fare, both as a mount and as a beast of burden, makes the ass the poor man's horse. It carries the small trader and his wares from village to village, it carries the produce of agriculture to the towns, it carries the peasant to his often far-distant fields and brings home the straw and hay.

Mules

A peculiar advantage of ass-breeding is the production of mules, which are bred from a mule ass and a mare. The mule is, indeed, not bred in orthodox Moslem districts, for the Turk looks on the crossing of animals of different species with horror; still, the mule is met everywhere as a beast of burden. Mules come from the Black Sea coast and Paphlagonia, from north Syria and the Turco-Persian frontier, especially from the Pusht-i-Kuh where they cost £9 each; or they are imported from Persia. Corresponding to its origin the mule combines the strength and general speed of the horse with the longevity, health, and proverbial frugality of the ass.

In areas where it can be done without violence to Moslem feeling, the State might well encourage mule-breeding. The mule is the best beast of burden and draught animal for a country with bad and hilly roads.

Camels

The camel will remain an essential link in the system of communication just as the horse has continued alongside the railways and motor traffic in Europe. The price for a full-grown camel is between £15 and £31 10*s*. The higher price of the Anatolian camel as compared with the Syrian or Arabian variety is explained by its stronger build and greater working

capacity. The Anatolian camels usually carry 4 cwt. They are all frugal, but glad to get good fodder, and can stand long periods of thirst. The two-humped camel is scarcer in Turkey than the dromedary. On the other hand, the *Tulu* camel, a cross between dromedary and the two-humped Bactrian camel, with one hump but otherwise like the heavier two-humped animal, is bred in considerable numbers by Armenians, Turkmens, and Yürüks. The *Tulu* stands bad weather well, and is therefore more suited to winter work in Anatolia and Armenia than the softer dromedary.

Oxen and Buffaloes

The Anatolian horse is not suitable for ploughing, which is done by oxen and buffaloes. The stronger of the two animals is unquestionably the buffalo. Its weight, power of work, and food requirements are double those of the ox. It also possesses the advantage that it is not very susceptible to illness, and is fit for work for a solid 30 years. In summer it requires its daily bath ; if no bath is available the buffalo must be deluged with water by its owner. The buffalo is highly prized in Anatolia for its high standard of work. It is said to cost from £9 to £15, according to quality and locality. A buffalo cow sells at from 6 to 7 guineas and gives milk for 8 months—$1\frac{1}{2}$–2 gallons at first and about $\frac{3}{4}$ gallon later.

In contrast to the buffalo, the ox, whose working-life lasts about 10 years, presents a picture of sorry degeneracy. It looks small, weak-boned, and jaded. It has all the qualities that a good ox should not have. Oxen are much used for drawing the wooden carts of the peasant, and crawl along at an incredibly slow pace.

Cows

The Anatolian cow corresponds to the ox. It belongs to the Podolian breed, which is at home in Russia, the Bukovina, Hungary, the Balkans, Italy, Greece, Turkey, and all Central Asia. The colour of the different breeds varies from dark brown to light grey—and even to silver grey and almost to

white, a shade which presumably denotes the Arabian breed. Brindled cattle are said to be rare in Anatolia.

As regards bodily characteristics, these cattle have a narrow head, a fairly long neck, generally a hollow back, strongly developed fore and weakly developed hind quarters, a characteristic which marks out the grey Podolian breed as a wild breed. As such it takes longer to develop than the European varieties, is lighter when fully grown, and gives less milk.

These points are to be considered when the Podolian type is compared with European breeds. But the Anatolian cow is still well beneath even the low development of its breed. It is generally described as undergrown and a poor milker. There are naturally many outstanding cattle-breeding areas, but the inferior type is predominant. The cows as a rule give milk only for 3 months, from 1–3 okes a day according to the quality of their food, i. e. 24–76 gallons for the season. Hence the low price of a cow. A good animal fetches 60*s*. to 70*s*.; poor ones 27*s*. onwards.

The Turk is utterly ignorant of the conditions of successful stock-raising, and cattle in different parts of Turkey are simply what the natural conditions make them. In the moist and mild climate of the coastlands and river-valleys the udder develops: in warm and dry regions it remains small. The quality of the soil, the character of the climate—moisture and heat, light and air—all influence the food of the cattle, and through it their development.

The inhabitants of Turkey have a hereditary taste for stock-breeding. The old nomadic habits survive in many places. The high-lying region offers extensive pasture areas for cattle-breeding. It is carried on less extensively in the low-lying areas; still there are tracts, such as the plains of Adabazar and Bafra, where thousands of sleek cattle and buffaloes graze. On the high lands there are no scientifically cultivated pastures. The production of grass is left entirely to nature. In a favourable season and locality there is plenty of grass, and elsewhere the cattle maintain a meagre existence as best they can, or starve in seasons of special drought. The

cattle get nothing but straw in winter : the Turk is very stingy with his corn. Feeding-stuffs are unknown to him : even hay is very scarce. In June the natural grass is cut, dried, and piled up on the roofs of the houses ; the hay in small ricks is too exposed to the weather, and loses in quality. This winter feeding is not sufficient, all the less that in winter large herds of cattle bivouac in the open for lack of accommodation. Consequently in a cold season many cattle die of cold and exhaustion. The small peasant, who only possesses a milch-cow or two, naturally takes better care of them, sharing his mud hovel with them. Sometimes men and women, poultry, sheep, goats, asses, horses, and cows eat and sleep together ; in more advanced districts the animals have a separate portion of the house or tent assigned to them ; a still further stage is reached when the human beings live in an upper story while the animals occupy the lower. Throughout Turkey the numerous natural caverns are favourite places of shelter for the cattle.

To promote cattle-breeding in Turkey, (1) better accommodation must be provided, (2) grass must be scientifically cultivated and clover introduced—clover and lucerne would grow easily in Asia Minor. For winter feeding, hay and root crops are essential. There is as yet no market for feeding-stuffs. For improving the stock it would be better to select and breed the cattle of the country than to try to introduce European stocks. Good bulls should be introduced by the Government.

Dairying should be encouraged in urban districts ; in the towns milk and butter are very difficult to procure. Milk costs 1½*d.* a litre ; butter 7*d.* a pound.

Goats

There are said to be 9½ million goats in Anatolia. They produce milk, flesh, and wool—the last from the Angora goat, which is spread over a wide area of central and northern Anatolia with isolated herds on the Paphlagonian coast and in north Syria. These goats have a curly, fluffy, rich fleece which shines like silk, with hair 6 in. long and more : for example, the goats of Beybazar have a fleece so long that it almost touches

the ground. Attempts have been made to introduce the Angora goat in various parts of Europe—Spain, Germany, and Austria, the French Alps, Tuscany, and Sweden—but the animal has failed to become acclimatized, either pure or crossed with other breeds. On the other hand, they have been successfully transplanted to South Africa and to the stony steppes of German South West Africa. But even here the wool is not so fine as in Anatolia.

The shear yields between 43,000 and 50,000 bales a year. Formerly it was used in the country for an expensive class of wares, and Angora alone had 1,000 looms and employed 10,000 weavers a century ago. Now this industry has been destroyed by European competition. The wool is now bought up by Armenian merchants who send it to be cleaned in Constantinople, and then shipped to England and France. About 1,500 tons are exported yearly at 1*s.* to 1*s.* 7*d.* a lb. as a rule, although the price has varied from 7½*d.* to 3*s.* The cost of production is low—the goats graze for three-fourths of the year, and are driven into their rickety folds or caverns only by severe frost and snow. The animals are used for breeding for 7–9 years; a pair of their young is worth 18*s.* at 1½ years. They produce, to begin with, 2¾, and later, 5 lb. of wool per annum; and also a little milk. Finally, they are sold to the butcher.

Less profitable is the breeding of the black goat. It, too, is shorn, and yields 1–2¾ lb. of hair sold at 2½*d.*–3*d.* per lb. The females give 1¾ pints of milk a day. Goat's flesh costs a trifle over 1*d.* a lb. Roast goat is a favourite dish at festivities, but not so generally used as lamb.

Sheep

Mutton is the chief animal food of Anatolia. In immense flocks sheep graze over the uncultivated pasture-lands. They are classified as fat-tailed and ordinary. The fat-tailed are the more numerous. They owe their name to the faculty they possess of storing large quantities of fat in their tails, which weigh from 5 to 7½ lb. There is no distinction between the two breeds in price. A full-grown ewe costs from 7*s.* to 9*s.*,

a ram 12*s.* 6*d.* to 14*s.* 6*d.* Both breeds give an equal quantity of wool and mutton, and rather over ¾ pint of milk daily. Near populous centres and the railways the production of mutton is the more important aspect of sheep-breeding : in the remoter districts, with poor communications, wool production is the more important. Sheep are shorn either once or twice a year ; in the first case they yield 1 oke of wool, in the second case ½ oke each time : the double shearing is the more profitable, because the wool of the second shearing is worth 12 piastres per oke as against 6 piastres for the earlier clip (1 oke = $2\frac{1}{5}$ lb.). The bulk of the Turkish sheep-wool remains in the country for the manufacture of cloth and carpets.

Poultry

Poultry are cheap—a chicken costs 2*d.*, a cock or hen about 9*d.*, a Turkey-hen 9*d.* to 1*s.* Eggs cost 2*d.* a dozen, or less in the country : they are exported in considerable quantities. No attention is paid to the poultry : they have to make their own living. Next to mutton, fowls form the chief article of flesh food. For the development of poultry-farming better communications are essential.

The most important stock-breeding areas are shown on Map 3.

2. Cultivation

Throughout antiquity, Asia Minor was one of the chief granaries of the Mediterranean world. Given scientific cultivation, it would again become an important grain-growing country. Much of the soil is extraordinarily fertile, and even under the primitive Turkish system of agriculture, a yield of 15–20 grains of corn for one, and in the richer coast districts a 30-fold or even 60-fold yield is common.

In respect of cultivation, the best authorities estimate the surface of Anatolia as follows :

Incapable of cultivation	15 to 20 per cent.
Not cultivated, but capable of cultivation. Mostly occupied by stock	40 to 45 per cent.
Cultivated land	40 per cent.

In the above list, the area 'incapable of cultivation' seems to be much too small.

In 1917, the latest year for which statistics are available, the Turks gave out officially that, in 1914 and before the war, the total cultivated area in Turkey was about 60 million dönums (over 13 million acres) for all crops. In 1915 it fell to 30 million (under 7 million acres) and in 1916 to 25 million ($5\frac{1}{2}$ million acres). It was stated that 35 million dönums (8 million acres) would be cultivated in 1917, whereas the official gazette, the *Tasfir-i-Ekfiar*, later claimed that 42 million dönums (10 million acres) had been cultivated, distributed as follows:

Vilayets.	*Dönums.*	*Independent Sanjaks.*	*Dönums.*
*Constantinople	231,120	*Eskishehir	762,067
Adrianople	1,893,297	Urfa	469,755
*Adana	1,542,809	*Izmid	781,081
*Angora	2,334,022	*Ichili	499,840
*Aïdin (Smyrna)	3,116,451	*Boli	822,804
Beirut	1,606,683	*Teke	677,006
Aleppo	3,947,829	*Janyk	277,157
*Brussa	1,349,278	Chatalja	226,476
Diarbekr	1,371,102	Zor	117,560
Syria	4,539,388	*Kara Hissar Sahib	1,278,111
*Sivas	1,985,000	*Karasi	884,243
*Trebizond	181,537	*Dardanelles	358,528
*Kastamuni	1,786,665	*Kaisari	490,896
*Konia	3,754,937	*Kutahia	962,311
Mamuret ul-Aziz	1,021,251	Marash	584,294
Mosul	720,339	*Menteshe	572,785
		*Nigde	883,836
Total of Sanjaks			10,638,750
Total of Vilayets			31,381,708
		Total ..	42,020,458
		(about 10,000,000 acres).	

(1 acre = 4·4 dönums; Anatolian vilayets and sanjaks marked *; in the case of Constantinople only part of the vilayet of course falls within Anatolia.)

These figures must of course be accepted with reserve, but they probably indicate the relative proportions of the cultivated areas in the different vilayets and independent sanjaks.

Three-quarters of the cultivated land is 'vakuf', or 'mosque land', generally poorly cultivated. One-fourth of the culti-

vated land, or 10 per cent. of the total area, is in the hands of peasants.

The great majority of the population of Asia Minor, probably 80 per cent., are engaged in agriculture and stock-breeding; of those about 5 per cent. engage in stock-breeding alone.

The main difficulty under which Anatolian agriculture labours is lack of water. Plenty of rain falls in early summer, but very little in the later summer and autumn. On the central plateau, as a result of universal deforestation, heat and drought are intense, and often lead to complete failure of the crops. There have been several cases of famine on a huge scale; a famine which occurred in the Kastamuni, Angora, and Kaisari district in 1873–4 carried off 150,000 human beings and 100,000 head of cattle. The succeeding year brought a second famine, which raised the total loss of human life to a quarter of a million souls.

The Anatolian peasant makes full and skilful use of any water which lies to his hand for irrigation purposes, generally by canalization, water-wheels being practically unknown. He has, however, neither the imagination nor the capital to undertake irrigation on a large scale. What can be done by such irrigation has been shown by the German irrigation system on the Konia plain, where a large extent of arid desert has been suddenly transformed into rich corn-land.

It will be useful to consider some of the causes which have brought Anatolian agriculture to its present deplorable state. Why is it that a country which was one of the chief sources of the grain supply of antiquity is at the present day not safe from the danger of appalling famine?

The chief agent of destruction has been the Turk himself. During the wars and incursions of the later Byzantine period much land must have gone out of cultivation, and the conquest of the country by the nomad Turks dealt a fatal blow at agriculture. Henceforth a country which had exported a large surplus of grain was destined to produce little over what was required for internal consumption. The Turks

were a tribe of warriors and shepherds, ignorant and contemptuous of agriculture, and the upper classes handed over the tillage of the soil to the conquered Christian population, or to slaves (see p. 174). Under such conditions, agriculture was bound to droop.

The nomad habit has persisted in Anatolia down to the present time. In the course of centuries the nomads have destroyed vast areas of forest, and deprived the country of its scanty moisture. Attempts to reinvigorate Anatolian agriculture must proceed *pari passu* with afforestation on a large scale. A systematic afforestation of the country would pay itself in increased agricultural productivity alone.

The Turkish effendi still turns his back on agriculture, with the result that it lacks both intelligence and capital, and the lower classes have no encouraging example before them. The upper classes in Turkey all aspire to the official career. As a consequence, the number of big landowners who live on their estates is small, and steadily grows smaller. The majority live in Stambul or other large towns, and let out their land in small holdings to poor peasants for short periods, sometimes for a single harvest. This improvident system leads to exhaustion of the land.

There is no real dearth of labour, but methods of work are old-fashioned and wasteful, and fail to make the best use of the labour available. The implements used are extremely primitive. The Turks have not introduced a single improvement in method since they took over the country. Ploughing, sowing, reaping, and threshing are carried on exactly as in Biblical times.

The Turks have further been responsible for the wholesale deterioration of the roads and means of transport. The Anatolian peasant was for long cut off from the world's markets and had no motive to produce more than was required for local needs. Along the railways, in recent times, there has been a great increase in agricultural production.

Another obstacle is the heavy taxation which weighs on agriculture. Von der Goltz reckoned the burden of taxation on farmers in the low country at 40 per cent. of the total

produce—including the tithe (with the taxgatherer's exactions) the ground tax, and the cattle tax.

In recent years agriculture has received a strong fillip from the railways, and from Mohammedan settlers who came from neighbouring regions. These 'muhajirs' come from the Caucasus (Circassians, Abghases, and Georgians who came in large numbers in 1856–65, and in the years following 1877) and from Europe (Bosniaks, Pomaks, Albanians, Rumeliotes, and Tatars from the Dobruja). They are settled in numerous communities all over the country, especially along the railways. They have introduced new methods and implements, produce good crops themselves, and exercise a healthy influence on the neighbouring Anatolian peasants.

The larger estates have part of their land worked by labourers hired by the year, who get £6–£7 a year and their keep; in harvest day-labourers are engaged as well, at 1*s.* 4*d.* a day and free food (in the low country; on the plateau labour is cheaper). Another part of the land is let to 'ortakjis' (literally 'partners' or 'tenants'); the landlord provides buildings, seed, implements, one or two pairs of oxen or buffaloes and 50 or 100 dönums of land, and the tenant hands half of the crop (after deduction of the tithe) over to the proprietor. The second method is preferred as giving the landlord less trouble, but farming by hired labourers is more profitable.

The Turkish peasant sows a winter crop and a summer crop. The winter crop is sown on the plateau in September, in the low country in November and later; the summer crop is sown on the plateau in March, in the low country as early as February. The summer crop yields less, and is sown to supplement the winter crop where time has failed for the sowing of all the fields in autumn or where the winter crop shows a poor promise in spring. The peasant knows nothing of a regular rotation of crops. The ground is manured, if at all, every 8 or 10 years; generally it is simply left fallow for a year or two after a crop. On the treeless plateau, all dung is required for fuel.

The primitive wooden plough is still largely used. It is drawn by oxen or buffaloes (never by horses) and only suffices to scratch the surface of the ground. Iron ploughshares and light iron ploughs have recently been introduced by the muhajirs along the Anatolian railway.

The seed is said to be sown a third thicker than is usual in Europe.

The harvest takes place in the low country in May and June, on the plateau in July and August. The summer crop ripens only two weeks later than the winter crop. In the interior the crop is mostly cut with sickles, more rarely with scythes. In many districts a number of reaping-machines have been introduced recently.

The corn when cut is not tied into sheaves, but gathered into heaps with large wooden rakes, and piled loose on two-wheeled carts drawn by oxen or buffaloes, and taken to the threshing-floor (*harman*). The dry mild autumn of Anatolia allows the peasants a long period in which to gather in and thresh their crops in the open air. The crop is laid out in thin layers on the ground, and a wooden sledge covered on the under side with chips of flint is drawn over it by oxen, while the driver stands on it. The corn and the chopped straw are then separated by tossing the mass into the air with a wooden fork. The chopped straw is used for feeding horses.

From the threshing-floor the tax-gatherer collects the tithe. In some districts, officials tour the villages at threshing-time, and make purchases of corn for the government. But the farmer generally sells his surplus corn to Armenian or Greek grain merchants in the nearest town.

The millers do not purchase grain from the farmers, but work exclusively to order. Windmills are known only on the west coast; inland, water-mills are the rule everywhere. In the small native mills, the flour and the bran are not separated, and the miller retains 5 per cent. of the produce as his fee.

The experience of the existing railways has abundantly

proved that a general extension of means of transport, connecting the Anatolian peasants with the world markets, would lead to an enormous increase in agricultural production. For the present, Anatolian agriculture suffers from the competition of South Russia, with its cheaper sea-freight. Freights on railways which depend mainly on the agricultural produce of an undeveloped country must be high, and camel freight still competes successfully with the railways in many districts.

Agricultural Produce

Wheat.—Anatolia is one of the oldest wheat-growing areas in the world, and wheat still holds the first place among its cereals. Wheat forms the staple food of the people, and is an increasingly important article of export. The prevailing species is *Triticum durum*, which yields a glutinous flour, especially suitable for the manufacture of macaroni. The flour yielded by *Triticum turgidum*, called by the Turks *boghdai*, is much less glutinous. These two species are the prevailing varieties in Anatolia. Wheat is grown with most success in the low country (the deltas of the Pontic coast, Adabazar, the valleys of the west coast, Cilicia, &c.), and on the plains of the central plateau (Erzerum, Angora, Konia, &c.).

Barley.—Next in importance to wheat comes barley. It is used in the country mainly as a feeding stuff for horses and cattle, and has gone out of fashion as human food. Varieties with 2, 4, and 6 rows of grain occur in Asiatic Turkey as a whole. In Anatolia, only the 2-row variety is cultivated. Barley is grown at all elevations; especially famous is the barley of Düver and Ikhsanie on the Anatolian railway, and of Erzerum. Only on the mountains round the coast is barley scarce. Barley from Anatolia and Syria is highly prized in English breweries.

In comparison with wheat and barley, other cereals are cultivated on an unimportant scale.

Oats.—Oats are grown mainly in Paphlagonia and exported

chiefly to Marseilles. They require a relatively cool and moist climate, which is supplied by the regions south of the Black Sea. Here oats form the main summer crop. Further south, as the rain ceases, barley takes their place. In Asia Minor horses are fed on barley, never on oats.

Rye.—Rye grows well in dry districts. It is generally sown, as in Rumania and Greece, mixed with barley. It is cultivated more widely than oats, but not nearly so extensively as wheat, barley, or even maize. A good deal is grown in the mountain districts around the central plateau.

Maize.—Maize, which originates in tropical America, requires a high degree of warmth and moisture. It is generally cultivated in places where irrigation is easy. The maize zone runs round the whole outward flank of the mountain fringe, from Cilicia to Lazistan. From the coast-lands, it pushes its way up the valleys on to the plateau. Anatolian maize is said to be of excellent quality. It is used as food for man and beast; for human food especially in the mountain region of the north. On the Bithynian Olympus a light beer is brewed from maize.

Rice.—The cultivation of rice, which was once grown extensively and of excellent quality, has gone out of fashion, owing to the danger of fever which accompanies it. As a marsh-plant, rice has to be kept under water until shortly before harvest. Most of the rice is grown in the highland river-valleys. Large rice-fields are found in the Porsuk valley and in the lower course of the Gök Irmak, the valley of the Devrez Chai, and the plain of Niksar. In south-eastern Asia Minor, the plain of Adana and the region around Marash are rice-growing areas.

Millet.—Millet has been grown in Turkey from time immemorial. Its importance to-day is less than that of the cereals mentioned above, but is not inconsiderable. The eastern Sardis plain produces good crops. In the valley of the Ak Chai in south-east Lydia, in the Cilician coast lands, in the depression between Küre Dagh and Elma Dagh south of Angora, and in Paphlagonia, fields of millet are common.

In Antitaurus, millet is grown up to a height of nearly 6,000 ft. above sea-level.

Sorghum or Durra.—A variety of millet called *sorghum* (the Arabian *durra*) is often sown along with maize. The Maeander valley and the Adabazar district produce crops of *sorghum*. It requires little rain, and is a useful crop in dry districts.

Leguminous plants.—Beans, pulse, chickpeas, lentils, and lupines are grown everywhere in Anatolia, and are used partly for the vegetarian diet of the inhabitants, partly as feeding stuffs. Those plants are generally grown only to supply local needs; but in some places leguminous produce is exported. The horse-beans of Lydia vie with its raisins and barley as an article of export: Panderma on the Sea of Marmara exports considerable quantities. Most of the lupines exported go to Italy.

Oleaginous plants.—Poppies and sesame are extensively cultivated. The poppy yields a double product, opium, and opium oil. As opium is a valuable article, and easy to handle and transport, many districts which are too remote to cultivate other agricultural produce profitably devote themselves to the cultivation of poppies. Thus in eastern Mysia, the Adranos valley, Simav, and the valley of Balat produce little but opium. The main opium market is Smyrna, which exports annually from 2,000 to 10,000 cases, averaging £160 in value. The vilayets of Brussa and Aïdin are the most important opium areas; Afium Kara Hissar, in Brussa, is famous, and Dineir is also rich in opium fields. In inner Anatolia, Konia, Malatia, and Yozgad are pre-eminent; Samsun exports a considerable quantity from its hinterland.

Sesame.—Sesame, which requires a high temperature, is confined to the western and southern coasts. It is exported from Panderma, Dikeli, and especially Smyrna (which is the port for the sesame fields of Bayndyr, Ödemish, and Aïdin), also from Makri and Mersina. A certain amount of sesame oil is used in the country for confectionery; most of it goes to the oil factories of Marseilles.

Textile Plants.—Flax and hemp are cultivated ; flax more extensively. Both flax and hemp yield a double product—the fibre of the stem, and oil-bearing seed. Linseed is exported from Adabazar (Izmid) and Panderma. The fibre of hemp is coarser than that of flax, and less elastic. They differ also in the conditions of their growth. Hemp thrives in dry heat, and is grown at Malatia. Flax requires greater heat and more moisture. Hence its cultivation extends over the low country and the milder mountain slopes. An excellent flax grows in the basin of the Lake of Abulliond, south of the Sea of Marmara, and also in the East Pontic area. The linen cloth of Rize got a first prize at the Paris exhibition of 1855, and the linen of Trebizond was formerly famous all over the east. To-day Trebizond manufactures hemp for the Black Sea ship-builders.

Root crops.—Root crops play a subordinate rôle in Anatolia. Experiments in sugar-beet cultivation at Eskishehir produced a root of the ordinary size, with an abnormally large sugar content. On the other hand, experiments at Sabanja are said to have proved a failure. Turkey is dependent on imported sugar, but could no doubt cover her own needs by attention to the cultivation of sugar beet, and of sugar cane, which grows copiously in the Tarsus area and the Pamphylian plain.

Potatoes are not extensively cultivated. Constantinople draws 95 per cent. of its potatoes from Malta, France, and Russia.

Efforts to acclimatize the cultivation of root crops in Anatolia should be encouraged as tending to utilize the soil more fully, establish a more rational distribution of labour, supply raw material for industry, and guarantee food for man and beast. The growing of root-crops alongside of cereals—in view of the diversity of conditions required by either crop—would be a guarantee against failure of the grain crops, inflation of prices, and famine.

Other vegetables.—The chief varieties of these are cabbages, chicory, asparagus, celery, lettuces, endives, mustard, onions,

garlic, peas, melons, artichokes, balmias, egg-plants, tomatoes, spinach, rhubarb, pepper, and aniseed. Most of these are grown in small gardens for home consumption, though there is a considerable export from the districts round the head of the Gulf of Izmid to Constantinople.

Tobacco.—Anatolian tobacco is reckoned inferior in quality to the American and Macedonian weeds, but its quality is very good, and it is said to be grown in sufficient quantity to supply half the world.

The tobaccos of Samsun, Bafra, and Trebizond are the best. Samsun tobacco is largely exported to Europe; that of Bafra is mostly consumed in the country. Between Sinope and Trebizond, the cultivation of tobacco is largely confined to the northern slopes of the coastal range, but it also makes its way up the river valleys into the interior. Along the Kyzyl Irmak basin tobacco cultivation extends to Idir, 1½ days' journey beyond Bafra, and to the valleys of the affluents south of the Nebien Dagh. Between Gerze and Sinope it only extends about six miles from the coast.

Round the Gulf of Izmid, and in the sphere of the Anatolian Railway, the cultivation of tobacco is confined to a narrower area. The most important plantations are at Tutun Chiftlik, 7 miles west of Izmid, at Adabazar, and at Düzje.

In the west coast lands, tobacco-growing is of minor importance. It is grown in the lower Hermus valley, and around Ayasoluk (Ephesus). The tobacco of Ayasoluk is used for blending with Macedonian tobacco. Tobacco is also grown in the Pamphylian and Cilician plains.

In general, tobacco is cultivated only in the lowlands, although it can be grown at high altitudes. The seed is sown in February, in forcing beds, and when the shoots are 4 in. high they are planted out. The ground is manured with sheeps' dung. After being dried in the sun for a month, the leaves are sold to the Régie (see p. 212).

Anyone may grow tobacco; but all tobacco must be sold to the Régie. On the other hand, the Régie is obliged to buy all the tobacco offered it. In practice, smuggled tobacco is

sold and smoked all over Turkey. The Régie monopoly is said to have hampered the free development of tobacco cultivation in Anatolia.

The home consumption is important, and is reckoned for the whole of Turkey at 13–16 million pounds of manufactured tobacco and 120–130 million cigarettes, valued at 180 million piastres. Presumably the consumption of smuggled tobacco is not included in these figures. It is very considerable, and, in many districts, universal.

Mulberry cultivation

The principal centres of the mulberry, on which silk production depends, are Brussa and Izmid; but the climate throughout Anatolia is probably favourable to this industry. Turkish raw silk goes almost exclusively to France and Italy. The quality of the white Brussa cocoon of the Baghdad breed is particularly esteemed owing to the strength of the thread. In the Brussa district the method of spinning is old-fashioned, and the Brussa goods are afterwards touched up in France before finding their way to the European markets.

Viticulture

In Anatolia, the grape ripens especially on the west coast, round Smyrna, and on the coast of the Sea of Marmara and the Gulf of Izmid. Further east, the vine is cultivated round Angora, in the valley of the Kyzyl Irmak, in the districts of Kaisari, Amasia, and Tokat, and round Trebizond.

There is no doubt that Anatolian wines, if they were manufactured and seasoned on up-to-date methods, would attain excellent quality and command good prices. Methods of preparation are primitive. Water is added at the time of pressing, cleanliness and cellars are unknown, and acetic fermentation sets in quickly. To prevent it, the wine is often boiled in open pans. When it sets in, spirit is added to tone up the wine. The manufacture of wine is entirely in the hands of Greeks and Levantines.

Raisins.—The raisins of Asia Minor take the leading place in world-commerce. In colour, sweetness, and fineness of skin they surpass those of California, Greece (currants), Spain, and Persia. A number of favourable circumstances, climatic and edaphic, must be present together to produce the best raisins. Sultana raisins, which amount to about 75 per cent. of the crop, are grown in the Hermus valley from its mouth to Alashehir, also in its tributary valleys, and in the lower valley of the Kaïkos in the neighbourhood of Bergama and Dikeli ; *Rosaki* in the region of Edremid, and black Phocaea raisins in the Kayster and Maeander valleys up to the east of Nazly. The most intensive culture is that on the Erythraean peninsula, which stretches westwards from Smyrna—here climate and facility of communication are ideal. The main condition of raisin cultivation is dryness of climate during the period of growth, and especially of drying and picking. The quality of the soil is of less importance. In the fruitful valleys raisins are grown on a large scale for industrial purposes (wine manufacture, &c.) ; on the slopes of the mountains the better qualities are grown. The bloom of raisin cultivation is of comparatively recent date. Raisins are now the most important export of Smyrna.

Olive Cultivation

Asia Minor is relatively unimportant as an olive-growing area. This is due partly to climatic and edaphic considerations which exclude the olive from the greater part of the peninsula, for the interior plateau, owing to its height, although its summers are long and dry, has very cold winters, and the rim of high mountains both on north and south restricts the influence of the sea. Further, the nomads who came from the steppes of central Asia had no knowledge of how to care for the trees they found in Asia Minor, still less of planting more ; on the contrary they destroyed them to secure pasture-land. They never developed skill in arboriculture, least of all in the cultivation of a tree which requires at least 15 years to give a good return. Moreover, they had been used to animal fats.

Hence the area under olives in Asia Minor in modern times is much less than it was in ancient times. To-day practically all olive growers are Greeks ; and we find the olive confined to areas inhabited by Greeks. East of the Khelidonian Islands, the eastern boundary of ancient Greek activity, there is a corresponding absence of olive cultivation.

Main areas.—I. The east Pontic area. From Sinope to the mouth of the Chorukh—along the coastward slope of the Pontic mountains and inland in some places as at Boyabad, Niksar, and Artvin (in Russia)—up to 1,300 ft. above sea-level. In this area the economic importance of olive is small.

On the western Pontic coast there are no olives, just as in ancient times.

II. On the west coastlands the olive thrives in many places. On the north it begins in the Princes Islands in the Sea of Marmara, and on the south coast of the Bithynian peninsula. It spreads round Brussa, Gemlik, the peninsula of Artaki—rising in this area to 1,000 ft. above sea-level. In the Troad and round Edremid it grows still more abundantly : at Edremid the olive is the most important fruit tree. Aivalyk and the island of Lesbos are important areas, and the export of berries and oil is very large. In the neighbourhood of Smyrna, although the olive is the characteristic tree of the landscape, it is second in importance to the vine. In the Hermus and Kaïkos valleys olive-culture is unimportant ; in the Kayster and Maeander valleys it again comes into prominence, rising to over 1,600 ft. above sea-level ; and in the sanjaks of Aïdin and Nazly the olive industry is of considerable dimensions. Samos is also rich in olives. On the whole west coast the olive is probably the most important industrially of all cultivated plants.

III. On the south coast in its western portion, especially in Karia and Lycia, there are respectable olive-groves, especially at Kekova, Kalamati, and Kastelorizo. In Cilicia, on the other hand, the olive is rare, except round Tarsus, Mersina, and Payas. Further east there are olive-groves at Marash.

Fig Cultivation

The fig is an important export commodity in the western districts. The cultivation of it requires little trouble and expense and is extremely profitable. The figs are gathered about the middle of August. The chief varieties are known as Barajyk and Lopia figs. The former are very sweet and are consumed locally; the latter are classified according to quality into three kinds, called Erbeyli, Aïdin, and Chaïli, and are exported to Europe. Next to raisins figs are the most important article of export from Smyrna.

Other Fruits

There is a considerable production of fruits other than those already mentioned, chiefly oranges, citrons, apples, pears, cherries, apricots, plums, dates (only on the south coast), walnuts, and hazel and pistachio nuts (on the production of hazel nuts, see p. 156). The distribution of the various fruits depends, of course, largely on climate and altitude. Oranges, dates, apricots, and pistachios are confined chiefly to the lowlands, the others to the higher districts. Oranges are perhaps the most important, and are grown mainly on the west and south coasts. They have suffered a good deal in the past from the ravages of the Phylloxera.

The distribution of cultivation in Asia Minor is shown on Map 2.

3. Trade and Industry

Until quite recently most of the commodities in common use in Anatolia were produced locally. Of late the products of native crafts have suffered from competition with imported articles, particularly in districts within reach of the railways. Native artisans, however, still play an important rôle in the bazars, where they may be seen at work in open booths. The various trades are generally confined to separate quarters or streets. The repair of delicate European articles, such as clocks and watches, is in many cases already in the hands of

the Greeks who are coming more and more to monopolize different crafts, as well as retail trade. It is the Greeks also who carry on most of the itinerant trades, and there are quite a number of prosperous Greek settlements, the men of which are almost continually engaged as artisans away from home. In particular, the building trade is largely in the hands of these itinerant Greeks.

There is as yet no clear-cut distinction in Anatolia between industry and handicraft. Industry in the European sense of the word is little developed except in the case of a few manufactures in the largest towns. Cottage or village industries are the rule. They are mainly on a small scale and are concerned principally with the primary processes of preparing native raw materials.

This absence of industrial development is, of course, due in the first place to the fact that the Anatolian population is mainly an agricultural one. A further hindrance to the development of native industries, however, is the tariff bar between different provinces. All the goods produced in a Turkish province are liable to a tax of 8 per cent. when imported into another province, whereas articles imported from abroad are subject only to an 8 per cent. tax at the port and may be sent without further duty into any province. Many industrial concerns have succeeded in securing a concession granting freedom from tax for their goods, but such concessions usually terminate after a few years, and their renewal involves the expenditure of a great deal of bakshish. Such industries, therefore, have only a limited market and have to meet strong foreign competition.

On the other hand, small concerns closely connected with agriculture and established to serve local needs are widely distributed.

Milling, &c.—Wherever a village is found beside a mountain stream one generally finds at a greater or shorter distance either one or more low box-shaped buildings of undressed stone. These are generally overshot mills, sometimes provided with a simple dam to hold up the water when it becomes low

in summer. Where there is no water to supply driving-power, especially on the west coast, windmills are used where the conditions are favourable. These mills are unlike those found in Holland, the sails being much smaller, stretched between a number of spokes radiating from the end of the driving-shaft. Steam-mills are found only in or near large towns such as Smyrna, Izmid, Konia, Adana, &c.

Among other industries closely connected with cultivation and stock-raising mention may be made of the preparation of dried meat (*basdirma*), the silk industry, the preparation of wine and raki, olive-pressing and soap-making, &c. The making of preserves for export to Constantinople is carried on at Kartal on the Gulf of Izmid.

The Timber Trade.—This trade naturally is largely confined to the well-wooded coastal districts. Of recent years there has been a considerable export trade in wood from the south coast, mainly from Yüksekkum to Egypt. On the north and south coasts, and in the mountains of the interior, many small saw-mills are found where the trees are cut up into logs or boards, and where also house-furniture, such as buckets, basins, bowls, spoons, &c., is made. There is not great variety in the tools employed. The saw, adze, chisel, and simple lathe are the stock-in-trade. At all the ports there are native boat-builders who fit up a simple slipway on the beach for the building of coasters (*kaïks*) or even larger vessels. Even the government dockyards at Izmid, which draw their timber from the woods of Hendek and Boli, are primitive judged by western standards.

Charcoal-burning.—Charcoal is extensively used in Anatolia and kilns are to be seen everywhere in the wooded hill-country. The charcoal is transported by ox-wagon.

The Leather Industry.—The extensive stock-breeding in Asia Minor provides large numbers of hides for the tanning of which the bark of the pine and the oak, particularly the valonia, is used. There are large numbers of tanneries—in Smyrna, Aïdin, Bergama, Ushak, Kutahia, Sivas, Trebizond, and other places. All kinds of leather goods are manufactured, sandals, low soft slippers, high riding-boots, belts, harness,

saddles, purses, scabbards, &c. There is a government leather factory at Beykoz on the Bosporus.

Metal-working.—This industry is comparatively unimportant. There are iron-foundries in Smyrna and Trebizond. The cutlers and swordsmiths of Sivas have a high reputation, and here also as in Trebizond and other smaller centres ornamental work in gold and silver filigree is produced. Tinsmiths and locksmiths have small workshops in all the larger towns, and blacksmiths are found everywhere. The shoeing-smiths are frequently gipsies. The small solid horse-shoes used in Anatolia are frequently imported from England and Belgium.

Pottery.—The ceramic art has almost entirely lost the position which it formerly held. The classic models in pottery have nearly disappeared and one of the main pottery centres, Chanak Kale (Pottery Fort) on the Dardanelles, now produces little but coarse ware. Small potteries and tile-factories are common throughout the country and supply local needs. There is a large tile-works on European lines at Injir Köi on the Bosporus which produces the so-called 'Marseilles' tiles.

The walls of many mosques and secular buildings are adorned with fine faïence ware. Most of the latter is produced at Kutahia and is much sought after by collectors. The art was introduced from the East by Persian artists, and is said to be a monopoly of a few families. The pitchers, flasks, plates, and tiles produced at Kutahia still exhibit the oriental richness of design, but in glaze are somewhat inferior to the ancient models.

There is a fine porcelain factory at Hereke, and a glass-factory at Pasha Baghche near Constantinople.

The Meerschaum Industry.—This industry also has declined in importance. The meerschaum is mined around Eskishehir and is used for the manufacture of cigarette-holders and pipe-bowls sold in Turkey.

The Textile Industry.—In spite of the introduction of cheap European fabrics the native textile products still occupy an

important position. These are the work mainly of the women and girls, and are distinguished by free artistic design as well as by durability.

Carpet-making, though almost entirely a cottage industry, plays an important rôle as a source of export from various provinces. As in the case of pottery, so here a deterioration from the ancient products is recognizable, but this is to a large extent due to the rapid increase of the demand for Turkey carpets, which precludes the possibility on the part of the carpet-makers of spending the very long time on their work which is required for producing a first-class article. Ever since the Vienna Exhibition of 1873 there has been a ready market for Eastern carpets in Britain, France, the United States, Austria Hungary, and Germany.

A more important factor, however, than the demand of the foreign market has been at work in affecting the quality of Turkish carpets. Cheap aniline dyes have been introduced and have largely displaced the old vegetable dyes, to such an extent in some places (e. g. Kula) that the ancient recipes have completely passed out of knowledge.

The carpet industry is distributed throughout Anatolia. The chief centres, however, are Gördiz, Kula, and Demirji in the vilayet of Aïdin, Ushak and Kutahia in the sanjak of Kutahia, and Kaisari in the vilayet of Angora. None of these towns has the appearance of a manufacturing centre but nearly every house is engaged in the industry. The carpets are of two kinds—knitted and woven. By far the greater number, including the so-called Smyrna carpets, are knitted; the 'woven' carpets are classified as *Kilim* and *Sumakh* respectively.

In Ushak the large so-called *Sofraly* carpets are produced. The wool used is that of the fat-tailed sheep, and the carpets are usually in five colours—blue, green, yellow, and orange on a dark ground with a rosette in the middle. The *Siraly* carpets are striped in violet, black, green, red, yellow, and white.

Gördiz is famous for its fine old praying-carpets as well as the modern *Sejade*. The latter measure from about

5–6½ ft. by 4 ft. and are distinguished by the thickness of the pile and their similarity to the Persian carpets. The warp is of cotton and the pile of picked wool while the design exhibits a rich variety in pattern. The carpets of Demirji are similar. At Kula the warp is of hemp. Generally speaking the products of Gördiz, Kula, and Demirji are better and more durable and therefore dearer than those of Ushak.

The *Düsheme* and *Yürük* carpets are produced by the Turkmens in the vilayet of Brussa and the sanjak of Bigha from a mixture of wool and goat's hair. They are bright coloured and wear extremely well.

In eastern Anatolia four main varieties of carpet may be distinguished :

1. Kyrshehir carpets. These are produced in Kyrshehir and the neighbouring village of Manjur. The industry is said to have been introduced by Persian prisoners, and certainly the mode of manufacture and design of these carpets resemble the Persian. They are, however, thicker in the pile. In their production pure wool is generally used, more seldom mixed with cotton or mohair. In the latter case the price is about doubled. The different varieties are prayer-rugs (*Sejade* or *Namaslyk*), about 3 ft. by 6 ft., *Yanhaly* which are used as coverings for divans, 14–15 ft. long by 4 ft. wide, *Yastyk* employed as cushion covers, and *Heibe* or saddle-bags which are sometimes exported to Europe and are used as sofa covers.

In order to maintain the quality of the carpets, which had been degenerating, the municipality of Kyrshehir in 1892 adopted a trade mark which was to be fixed only to carpets reaching a certain standard. The effect of this action appears to have been beneficial.

2. Kurdish carpets. These are made on the plateaus of the Haimane and the sanjak of Kaisari by the nomad Kurds. Their surface is uneven and irregular. The same pattern is seldom repeated oftener than two or three times except round the edge, which is broader and closer in the pile than is the case with the Kyrshehir carpets.

3. *Kilims.* These carpets are also made by the Kurds. The pattern is produced in the weaving by leaving a row vacant and altering the colour. The mode of weaving implies that the pattern of these carpets falls into straight lines frequently broken at right angles. The design is arranged symmetrically round the centre line.

4. *Jijims.* This variety is distinguished from the preceding in having the surface embroidered with patterns sometimes of the same, sometimes of different colours. Longitudinal lines running zigzag are also frequently introduced. These carpets measure 3–11½ ft. in length by 1 ft. in width and are used as window or door curtains.

Spinning, Dyeing, and Weaving.—The weaving of all kinds of fabrics for clothing and household use is almost universal. Cotton, wool, goat's hair, mohair, silk, hemp, or flax are the materials used. Some of the yarn is imported, mainly from Britain. When the spinning is done locally it is usually in the hands of the women. In some of the larger towns, such as Smyrna, Adana, and Tarsus, there are spinning-mills on European lines. The mills in Smyrna and Adana are driven by steam, those in Tarsus by the Tarsus Chai. The actual weaving, done on a simple loom, is carried on generally by men who also dye the yarn. Dyeing is usually carried on wherever there is any carpet-making, and there are besides, in the western districts, one or two settlements, e.g. Kady Köi south of Serai Köi, which are almost exclusively centres of the dye industry. Such settlements are generally found beside a strong stream or spring.

The linen industry is most widely developed in the north, in the sanjak of Izmid and round Rize in the vilayet of Trebizond.

The head-quarters of silk-spinning and weaving is Brussa, the fabrics of which have a high repute. Some of these, ribbons, lace, braid, &c., are of pure silk in different colours, others are a mixture of silk and other materials such as cotton or linen, or with gold or silver threads tastefully interwoven. Bilejik produces chiefly silk velvet, while from other places

in this northern district come fine diaphanous silk stuffs. The imperial factory at Hereke prepares beautiful silk napery which is about 20 per cent. dearer than similar European fabrics.

In the coastal districts the thread most in use is cotton which is woven into brightly-striped cloth. In the interior wool is most commonly employed and the finished product is extremely strong.

The mohair industry has declined in importance. There are still a few looms in Istanoz and Tosia. Heavy and light blankets, often adorned with fine gold embroidery, are made in many districts. There is a considerable production of hosiery in the vilayets of Sivas and Angora. In Karamursal on the south side of the Gulf of Izmid there is an English factory for the making of shawls and fezzes, which find a ready market among the native population.

The chief industrial centres are shown on Map 3.

4. Commerce

What has been already said of the products of Anatolia in this and previous chapters gives some idea of the trade possibilities of the country. Commercial development has of course been retarded in recent years by the abnormal conditions in the Turkish Empire, which has been almost continually engaged in war since 1911. These abnormal conditions may in some districts have more or less seriously modified the possibilities of future trade. Thus the massacre and deportation of the Greeks and Armenians along the Black Sea coast and the compulsory cultivation of food-stuffs have for the present almost ruined the tobacco industry.

Perhaps the chief hindrance to commercial development in peace time was the lack of proper communications. Under the necessity of war both road and railway communications connecting the plateau with the countries to east and south-east have been considerably developed, and this must affect future trade in these directions, especially if Armenia, Trans-Caucasia and Mesopotamia are opened up, and will also

react on the trade of Samsun, Trebizond, Alexandretta, and Mersina.

The backwardness of pre-war communications was of course due in the main to the absence of a progressive Government in Constantinople. It was also, however, owing in a considerable degree to lack of enterprise and of a sense of the value of time on the part of the Anatolian population—it is significant that caravan transport is still able to compete with railway transport. This lack of enterprise is no doubt partly a defect of character in the Anatolian peasantry, though it must be borne in mind that the vices of the governmental system, by depriving the peasant of much of the fruits of his labour, were also in no small measure responsible.

The relatively best-developed part of the country is the west, where the geographical conditions for commercial development are most favourable and where also the commercial element is largely composed of Greeks who have a natural aptitude for trade. The commercial capital of Anatolia therefore is Smyrna, which possesses the best harbour facilities on the west coast. Next in order of commercial importance come Alexandretta, Samsun, Trebizond, Haidar Pasha, Mersina, and Adalia. The relative positions of these places with regard to trade may of course be modified in the future.

In the matter of food-stuffs Anatolia is practically self-supporting, the chief imported commodities coming under that head being sugar and coffee. Other imports consist chiefly of manufactured articles such as cotton goods, thread and yarn, fancy goods, petroleum, ironmongery, &c.

While much of the agricultural produce is consumed in the country, there is a surplus for export, and the trade in agricultural produce and other raw materials is a source of wealth to the country.

From the ports of the Black Sea coast come timber, tobacco, hazel-nuts, eggs, native manufactures, hides and skins, fruit and vegetables, hemp, linseed, and cereals.

From the ports of the Aegean and Sea of Marmara the chief

exports are wheat, barley, raisins, maize, figs, carpets, valonia, and wool. The west coast exports of opium, cotton, tobacco, skins, liquorice, eggs, beans, and olives are also important.

It is to be noted that the character of the fruit export alters entirely from north to west. An abundance of hazel-nuts, apples, pears, cherries, &c., gives place to an even greater abundance of grapes, figs, and olives.

On the south coast, again, the first place is held by the export of cotton and cotton seed, while the export of live-stock, wheat, native manufactures, and sesame are of considerable importance. Silk, timber, barley, oranges, leather and skins, &c., are also exported.

The potential wealth of the country is such that a vast development in commerce is possible. For this, in addition to the improvement of inland communications, a primary essential is the increase of harbour facilities. Even at Smyrna traffic has for years been much congested. Given these improvements a rapid increase both in import and export trade may be looked for. There is certain to be a very considerable demand for modern agricultural implements and machinery and a ready market for other manufactured goods as an increase in internal prosperity gives rise to a higher standard of comfort. A very large surplus of raw materials is assured in proportion as the area under cultivation is increased and better methods of production come to be adopted. Much also may be expected from the increased exploitation of the mineral resources of the country.

For detailed commercial statistics, see Appendix 6.

CHAPTER VII

COMMUNICATIONS

Roads : General—Routes from East to West ; Routes from South to North —Miscellaneous—Railways.

I. ROADS

General

The chief road-communications of Asia Minor are determined by the country's geographical position, configuration, and interior physical features.

The Bosporus, where Europe and Asia approach each other within a mile, is a central position that has always been occupied by a great trade emporium. This emporium has always been the starting-point of a system of main lines of communication reaching to the farthest parts of Asia Minor, and passing beyond its eastern and south-eastern boundaries to Persia, Mesopotamia, and Syria.

Another influence producing a second point of attraction for main roads has always exerted itself in the neighbourhood of Smyrna. By reason of the general direction of overseas trade to the west, and also by the existence in this part of the country of great fertile valleys providing easy routes between coast and interior, hereabouts was the readiest and most advantageous sea-access for wide regions of Asia Minor. Hereabouts, therefore, there have always been one or more great ports and marts, now represented by Smyrna.

Existing routes of communication in Asia Minor divide themselves into two broad groups, defined by the general direction the routes follow. Those of the first group run between east and west : those of the second between south and north : each group may be subdivided according to

the nature of the road—whether chaussée, cart-road, or merely caravan-track or horse-track.

Routes of the first group, as a whole, unite the capital, and the great western port of Smyrna, with the distant eastern provinces, and sometimes continue into Russia and Persia. Routes of the second group connect large cities and districts with their ports and with each other, and provide means of intercommunication between routes belonging to the first group. Only incidentally do these roads connect the south coast with the north.

It should be noted that sometimes roads of both great groups combine, and that there are long distances on which a single road may represent a north and south line of communication and also a line of east and west communication. In this way roads leading from certain northern ports may be said to extend into Persia and Mesopotamia.

Routes from east to west

Three great trunk routes—or perhaps four may be distinguished—cross Asia Minor from east to west. (1) The first, which we may call the southern trunk route, passes along the southern edge of the plateau. (2) The second, the northern trunk route, passes along its northern edge. (3) The third, which occupies an intermediate position in the eastern part of the plateau, may be called the middle trunk route. (4) A fourth route may be variously considered as an alternative loop to the northern trunk route, or as a trunk route in its own right. We call it the Pontic route.

1. The southern trunk route is the most important of the west–east routes. It begins at Smyrna. Thence it consists of two parallel roads, both of them chaussées or good cart-roads as far as Chai, east of Afium Kara Hissar. The more northerly of these two roads lies up the valley of the Hermos, and passes through Ala Shehir and Ushak. The railway from Smyrna to Afium Kara Hissar follows the course of this road.

The more southerly of the two roads goes up the valley of the Maeander, and passes Denizli and Dineir. The Smyrna–

Aïdin railway accompanies this road as far as Dineir. The two parallel roads unite at Chai. From Afium Kara Hissar a chaussée goes north, and, passing through Boz Öyük, and down the valleys of the Kara Su and Sakaria, joins the northern trunk route at Geive, and thus links Smyrna and the southern trunk route with Constantinople.

Afium Kara Hissar and Chai lie in or at the approach to the valley of Phrygia Paroreios, which is the only deep breach in the series of mountain ridges which extend from Eskishehir to Konia. From this valley an important road runs north-eastwards to join the northern trunk route at Angora. It is a chaussée from Chai to Azizie, and is passable for wheels along the rest of its course, by the bend of the Sakaria and across the downs of the Haimane past Ilija and Hammam.

From Afium Kara Hissar the southern trunk route, here a chaussée, goes south-east to Konia ; thence passes through Karaman to Eregli, where it turns into the Taurus mountains. From Eregli it passes over the Taurus range, and through the Cilician Gates, and thence descends to the Cilician plain and Adana. Between Adana and Aleppo the route has two courses, one southward through Alexandretta and across the Amanus mountains by the Beilan Pass ; the other eastward over the same mountains by Hassan Beyli and Islahie. From Aleppo the route goes eastward by Birejik to Urfa and Mardin where the middle trunk route merges with it to Baghdad. Eastward from Eregli the route is known to have been made into an excellent motor-road, which takes the course via Hassan Beyli. For the whole distance between Afium Kara Hissar and Aleppo the route is never far from the Constantinople–Baghdad railway line.

Ak Shehir, on the southern trunk route, is linked with the Yalovach region by a chaussée crossing the Sultan Dagh to Örkenez. A cart road, shorter than the trunk route, leads from Ak Shehir to Konia via Doghan Hissar.

2. The northern trunk route leads from Constantinople to Persia and the Caspian Sea. From the Bosporus it skirts the northern shore of the Gulf of Izmid, passes Izmid, where

the Pontic route breaks off north-east, and along the southern side of Sabanja Lake, and then turns southward up the valley of the Sakaria to Geive. So far it is accompanied by the Anatolian railway. But at Geive the road and railway separate, and do not come together again till both reach Angora. As a means of communication between Constantinople and Angora the road has lost much of its importance owing to the railway. But because road and railway lie wide apart between Geive and Angora this section of road retains its value for local traffic. From Angora the road goes east to Yozgad, but on this section has fallen more or less into disuse. The present main route between these two towns coalesces with the middle trunk route from Angora south-eastward to Idebel Chiftlik. Here the northern trunk route turns north-east to Yozgad, and thence east to Yeni Khan, on the Samsun–Baghdad chaussée. From Yeni Khan the route and the chaussée combine as far as Sivas.

Between Angora and Sivas at least four loop roads exist, forming lines of communication parallel to the northern trunk route just described. (1) The old direct route, now a cart-road, between Angora, Cherekli, and Yozgad. (2) The cart-road going east-north-east from Angora through Sungurlu and Chorum to Amasia on the Samsun–Baghdad chaussée, which carries the loop on to Sivas. (3) A cart-road which branches off the route a little to the east of Yozgad, and goes north-east to Zile. Here it forks, on one hand to Turkhal, on the other to Tokat, both on the Samsun-Baghdad chaussée. (4) Another cart-road, which leaves the route near the same point as (3), and has direction east by north to the same chaussée at Chiftlik.

Beyond Sivas the northern trunk route continues up the valley of the Kyzyl Irmak to Zara. Thence it crosses a ridge, enters the valley of the Kelkit Irmak, and, passing through Enderez, reaches Erzinjan. From Erzinjan it goes on to Erzerum and Bayazid and so to Persia.

From railhead, east of Angora, to Erzerum the route is a chaussée, believed to have been put into good repair and used

as a motor-road during the war. Beyond Erzerum it is a cart-road.

Between Sivas and Erzinjan an important loop-road occurs for part of the distance. It leaves the route at Zara, and continues up the valley of the Kyzyl Irmak, and joins the main route at Gerjanis. It is passable by carts.

Between Erzinjan and Erzerum another loop cart-road exsits. It leaves Erzinjan and goes nearly north-east to Bandolar, following, so far, the Erzinjan–Trebizond chaussée. Near Bandolar the loop goes off towards the east, and, passing through Pulk, joins the Trebizond–Erzerum chaussée at Ashkale, and follows that to Erzerum.

3. The route defined as the middle trunk route is to some extent a branch of the northern trunk route. It leaves this route at Angora, and thence goes south-east through Kyrshehir to Kaisari as a chaussée (as has been stated the main line of the northern trunk route coincides with the first part of this route). An alternative line from Angora to Kaisari (at one time selected as a railway route) passes by Beinam, Parlassan, and Nevshehir, along the western side of the Kyzyl Irmak. From Kaisari the route continues east as a cart-road through Azizie to Görün, where it joins a chaussée which it follows through Derende and Malatia to Kharput. Hence it goes as a chaussée to Diarbekr and Mardin and so to Baghdad. Between Kaisari and Görün the route has been described as a cart-road, but there are reasons for suspecting that during the war it has been made available for motor-traffic all the way from Kaisari to Mardin.

4. The Pontic route branches off from the northern trunk route not far from Ada Bazar, and thence, partly as chaussée, partly as cart-road, goes to Boli. From Boli the route goes to Kastamuni and thence down the valley of the Gök Irmak to the Kyzyl Irmak. There is reason for believing that from Ada Bazar to Kastamuni the route has been made into a motor-road. From Kastamuni to the Kyzyl Irmak the route is a chaussée in bad condition. It crosses

the river by a ford, beside a broken wooden bridge, and goes thence to Khavsa. From Khavsa it goes through Ladik, crosses the Yeshil Irmak, and reaches Herek, in the valley of the Kelkit Irmak, and then, as a cart-track, on one bank or the other of that river, ascends the valley to Shabin Kara Hissar. The route continues thence as a cart-road to Baiburt in the valley of the Chorukh. East of Boli a more direct, but administratively less important road passes through Tosia and Amasia (see below).

Another west–east route which should be mentioned, though of only slight importance, follows the coast-line of the Black Sea from the Bosporus to the Russian frontier. For the greater part of its length it is only a bridle-track, but between Sinope and Ordu wheels can pass, and there are long stretches of chaussée; similar stretches also exist east and west of Trebizond.

Routes from south to north

There is no great outstanding route from south to north, existing primarily as such, between the south coast and the north. Only incidentally do lines of communication extend from coast to coast. But in connexion with these south–north routes various road-centres emerge, which derive their importance, in the road communications of the country, from the intersection of a number of roads with a general south–north direction with a west–east trunk route.

These chief road centres are: Afium Kara Hissar, Angora, Kastamuni, Konia, Yozgad, Kaisari, Sivas; and beyond the periphery of Anatolia proper, Erzinjan, Erzerum, Kharput, Diarbekr, and Aleppo.

The south–north routes may be taken in order successively from the west.

5. The first of these runs from Smyrna to the Sea of Marmara. This route, a chaussée for its whole length, goes from Smyrna through Soma and Balikesr to Panderma. It is accompanied by the Smyrna–Panderma railway.

6. The next route runs from Adalia to Afium Kara Hissar,

and passes, as a chaussée, through Isbarta, Kechiborlu, Dineir, and Sandykly. At Dineir or Afium Kara Hissar it crosses the southern trunk route ; and makes direct communication with Constantinople by a linking chaussée going via Kutahia and Bilejik to Geive where the northern trunk route is joined.

An eastern loop breaks off at Dineir, and goes north-east to Chai, coinciding with the southern trunk route. Hence the loop-route runs north-west to Eskishehir via Bolavadyn, Bayat, and Seidi Ghazi, with a subsidiary eastern loop from Bolavadyn through Azizie to Eskishehir. The section Chai–Azizie is a chaussée.

Beyond Eskishehir the main route continues to Sügüt, and thence to the Afium Kara Hissar–Kutahia–Geive chaussée near Bilejik. From Sügüt an alternative chaussée route continues northward, crosses the Sakaria at a ford near Gemiji, passes through Göl Bazar, and joins the northern trunk route at Geive.

From Eskishehir a good cart-road, which is used as a short cut to Konia, runs through Piribeyli to Ak Shehir on the southern trunk route.

Reference should be made here to a short linking route, probably a cart-road, from the northern trunk route near Nallykhan northward through Mudurnu to Boli, on the Pontic route.

Roads also run from Adalia to Denizli (cart-road) and to Konia (see below) on the southern trunk route.

7. The next route to be mentioned is one that may be followed from Selefke on the south-coast, to Ineboli, Sinope, and Samsun on the north coast. The first stage is the chaussée from Selefke through Maghara, across the Taurus mountains by Perchin Bel, and so to Karaman. Hence the route continues northward by the southern trunk route to Konia. (Konia may also be reached from the south coast by a bridle path from Adalia leading to Beyshehir, whence traffic goes by a chaussée to Konia.) From Konia the route goes north as a cart-road through Suverek and Kozanly to Angora, and

there links with the northern trunk route. Between Angora and Changhry, via the Chybuk Ova, it is a cart-road. Hence to the sea at Ineboli it is a chaussée passing through Koch Hissar and Kastamuni, where it crosses the Pontic route.

From Changhry a branch of this south–north route goes as a rough cart-track to Tosia, whence a direct cart-road continues to Kastamuni. From Tosia another cart-road continues down the valley of the Devrez Chai to Haji Hamza. Near this place a track, which may be passable by ox-carts, runs on to Boyabad, where it crosses the Pontic route. From Boyabad to Sinope the route continues as a chaussée, said to be in bad condition.

At Haji Hamza the cart-road from Tosia already mentioned becomes a chaussée, which crosses the Kyzyl Irmak at Osmanjyk and continues through Merzifun to Khavsa where it links with the Samsun–Baghdad chaussée, and then follows this chaussée to Samsun. At Khavsa, too, this road from Tosia crosses the Pontic route. A loop route, partly chaussée and partly cart-road, also runs between Angora and Merzifun. It goes from Angora to Kalejik, where it crosses the Kyzyl Irmak, and thence through Sungurlu and Chorum to Merzifun. Between Angora and Chorum it passes over a part of the Angora–Sungurlu–Chorum–Amasia loop, already referred to, of the northern trunk route.

From Konia a somewhat important linking road, passable by carts, runs north-east through Obruk, Ak Serai, Nevshehir and thence alternatively by Avanos or Injesu to Kaisari. Here it joins the middle trunk route and the great south–north chaussée which runs from Mersina to Sivas.

8 The Mersina–Sivas chaussée (it may even be said to begin at Selefke, for a chaussée runs north-east from Selefke to Mersina), forms part of the most important route which crosses Asia Minor from coast to coast. It has been improved into a good motor-road during the war. From Mersina it goes to Tarsus, and then ascends the Taurus mountains. A few miles south of the Cilician Gates it joins the southern trunk route, and, following that, passes through the Cilician

Gates, down to Bozanty, and along the Chakyt valley to Ulu Kyshla. At Bozanty an important caravan-track, forming the direct route between Mersina and Kaisari, goes north over the Bulduruch Pass. This track carries a great deal of traffic, but is not passable by wheels. From Ulu Kyshla a newly made motor-road or chaussée runs northward through Bor, Nigde, and Araply. At Bor a loop cart-road comes in from Eregli on the southern trunk route. And at Araply the direct caravan-track from Bozanty over the Bulduruch Pass joins the chaussée. Beyond Araply the chaussée continues through Develi Kara Hissar to Injesu—where a route, already mentioned, joins from Konia and Nevshehir—and thence to Kaisari, where it crosses the middle trunk route.

From Kaisari an important chaussée runs north-west to Yozgad, and there meets the northern trunk route. A cart-road continues northward from Yozgad to Chorum and links there with the chaussée from Chorum to Merzifun and Samsun.

The chief line of communication between the Mediterranean and the Black Sea goes, however, from Kaisari to Sivas as a motor-road which passes through Gemerek and Sharkyshla. At Sivas this road meets the northern trunk route, and runs upon it north-west to Yeni Khan, whence the Samsun–Baghdad chaussée is followed through Tokat, Amasia, and Khavsa to Samsun.

Between Tokat and Amasia is an alternative western chaussée loop through Zile. At Chiftlik a linking cart-road comes in from Yozgad via Yanghin and Sulu Serai. At Turkhal another linking cart-road joins from Yozgad after passing through Zile. And at Amasia a cart-road comes in from Chorum.

From Tokat a chaussée goes through Niksar where it crosses the Pontic route, and over the coast-ranges to the Black Sea at Unie ; and an eastern loop route, a cart-road through Kargin, joins Sivas with this chaussée at Niksar.

9. The next south–north route to be described begins at Adana. It runs north to Sis as a cart-road, and thence to

Hajin as a difficult cart-track. From Hajin it continues northward past Saris to Azizie, where it crosses the middle trunk route. Beyond Azizie the route is a chaussée which runs through Tunus and Karajiler to the northern trunk route a few miles south of the Kyzyl Irmak and so to Sivas.

10. Another south–north route, of but little importance at present, follows the southern trunk route eastward from Adana to Yarzuat where it branches off north-east to Baghche as a cart-road, and crosses the Amanus range. It then turns north to Marash. From Marash it goes northward as a cart-road to Zeitun, and thence, as a horse track goes to Albistan, and Görün, where it crosses the middle trunk route. From Görün it continues as a chaussée by Manjylyk and Ulash to Sivas.

From Marash a cart-road, now probably a chaussée, runs north-east to Malatia via Pelvere, Ak Serai, Erkenek, and Salanda. At Malatia the middle trunk route is met, coming from Baghdad via Diarbekr and Kharput.

From Malatia to Sivas a section of the Samsun–Baghdad chaussée may be followed, a motor-road said to have been put into excellent condition during the war. It passes from Malatia through Alaja, Kangal and the Delikli Tash pass to Sivas. At Ulash the route from Görün, mentioned in the previous paragraph, comes in from the south.

11. A south–north route from Kharput to the Black Sea coast at Ordu is the next in order; a chaussée for the whole distance. It leaves the southern trunk route at Kharput, and runs north-west through Keban Maden to Arabkyr. Here a route, partly chaussée, partly horse-track, goes north-east up the valley of the Euphrates to Erzinjan. From Arabkyr the Black Sea chaussée route continues through Divrik, over the Kara Bel Dagh pass to Zara in the valley of the Kyzyl Irmak, where it joins the northern trunk route and follows that northward into the valley of the Kelkit Irmak. The present route leaves the northern trunk route a little south of Koïli Hissar, passes through that town, crosses the coastal ranges, and reaches the Black Sea at Ordu.

Between Koïli Hissar and Ordu the chaussée is very liable to injury from flood and landslip.

12. Another south–north route between the valley of the Euphrates and the Black Sea, leaves Divrik and goes northward as a rough cart-track which becomes better when the valley of the Kyzyl Irmak is entered. It continues northward thence through Buldur to Ezbider, near which place it crosses the northern trunk route, becomes a chaussée, and goes to Shabin Kara Hissar. It passes thence as a chaussée, generally in bad condition, across the coastal ranges, and descends to the port of Kerasund on the Black Sea.

13. The last south–north route to be mentioned is the chaussée which connects Erzinjan with the port of Trebizond. It leaves the northern trunk route a little west of Erzinjan, goes north to Teke on the Trebizond–Erzerum chaussée, and follows that over the coastal ranges to Trebizond.

There is no direct cart-road between Erzinjan and Kharput. Wheeled traffic from Erzinjan to Kharput usually passes along the northern trunk route via Enderez to Zara, and thence reaches Kharput by the Kara Bel pass and Divrik.

Miscellaneous

Character of Roads

Even the trunk roads of the country vary much in construction, and the condition in which they are maintained. The same road often shows great differences within a comparatively short distance.

As a rule the trunk roads are chausseés from 15 to 25 ft. in width, tolerably well constructed, but almost always deficient in foundation. Much attention has been given to gradient, and this, on the whole, is remarkably easy considering the mountainous nature of the country. Culverts for flood water are general on some lengths of road, but absent on others; the substitute adopted is a dip and rise across the whole width of the roadway.

Surface varies so much that it is impossible to generalize,

except that the designation of a road as a chaussée implies metalling or paving in some form. Sometimes broken stone is used, sometimes merely a dressing of loose shingle ; sometimes long stretches of road are paved with large loose rounded stones closely set upon the earth. Naked rock also appears frequently as a road surface.

Few roads maintain a good condition in extremes of weather ; in winter, and during heavy rain, they are deep in mud, in the heat of summer deep in dust. In the neighbourhood of towns roads are, as a rule, better than on intermediate stretches. Kilometre stones are provided along some chaussées. In some parts of the country roads are maintained by forced labour.

Unmetalled roads receive little attention either in making or in upkeep. They are usually no more than convenient routes along which obstacles are not so great as to prevent wheeled traffic. Upon such a route vehicles choose their own course ; the road has no definite limits in width, and sometimes expands to several hundred yards.

Caravan- and horse-tracks receive no attention at all ; they are routes along which, on account of narrowness, gradients, or obstructions, wheeled traffic is unable to pass.

Streams and rivers crossed by trunk roads and chaussées are generally bridged by stone or wooden bridges, the material as a rule depending on the presence or absence of forest within reasonable distance. Stone bridges are usually good and sufficient ; wooden bridges poor, and liable to injury by flood.

Bridges are also provided along many cart-roads and caravan-tracks on which traffic is considerable and streams difficult to ford. Wooden bridges frequently remain broken and impassable by any traffic for long periods ; repairs depend on the condition of the country, and the importance of the traffic a bridge serves. Few wooden bridges are capable of supporting a load of more than $1\frac{1}{2}$ tons on two wheels. Fords often exist beside bridges and are frequently used when the streams are low, though the bridge may be intact.

Vehicles and Transport

The vehicles of Asia Minor are limited to two chief varieties —arabas and ox or buffalo carts. All four-wheeled vehicles are called arabas. Two sorts, however, exist—heavy and light : both drawn by two horses as a general rule, though sometimes by three. Light arabas are mounted on springs (*yaili araba*), and furnished with a hood, and are the passenger vehicles of better-to-do travellers. In fine weather on good roads these conveyances can average 40 miles a day for long distances : 25 or 30 miles is a more usual average on ordinary roads. The heavy springless araba (*yuk araba*) is a slow cumbersome wagon, often of the most primitive construction, used for goods and the poorer sort of passenger. In some districts a better kind of goods wagon, drawn by three horses, is found. On chaussées it can average 3 miles an hour with a load of from 15 cwt. to a ton.

The universal vehicle, however, of the country districts is the ox or buffalo cart, formed of two solid wooden wheels fastened to a wooden axle supporting a rough frame. Wheels and axle revolve together. Such carts carry from 12 cwt. to a ton, depending on the nature of the road, and can traverse almost any track. They have a pace of about 2 miles an hour for 8–10 hours a day. In the Cilician plain a very much larger kind of ox-cart, with high, spoked wheels, is used for conveying cotton.

Large quantities of goods are transported by camel-caravans, pack-horses, mules and asses. Caravans frequently ply between points a great distance apart, and are essentially a long-distance means of conveyance. Their daily journey is 15–20 miles. A camel's load varies between $2\frac{1}{2}$ and $4\frac{1}{2}$ cwt. Pack-horse, mule, and ass-conveyance is, in general, used for short distances, and averages 18–25 miles a day. Caravan and pack-animal traffic appear on every kind of road.

Owing to a variety of causes, some economic, others due to prejudice, conveyance by road is carried on in many districts side by side with a railway service.

Measurement of Distance

Distance is measured by hours. Many of the chaussées are provided with kilometre stones, but to these the natives pay no attention, and always give the distance from place to place in hours.

An hour's distance is not accurately fixed, and must obviously differ with the character of the road and the mode of transit. The nearest approach to an accurate standard is the official posting hour by which the price of horse-hire from stage to stage was formerly reckoned. Along the post-roads, even where they have been superseded by railways, the distance is usually given in official posting hours. The latter work out at an average of $3\frac{3}{4}$ miles over level country, but are considerably shorter in the mountain regions. The posting times are always shorter than those taken by troops on the march.

The distance covered within an hour of course varies much, being dependent on such factors as the condition of the road, amount of load, variety of gradient. 'Hours' of a specified kind, such as 'araba hours', 'pack-horse hours', 'caravan hours', &c., are also in common use.

Away from the post-roads, the Turkish indifference to accuracy in numbers makes native statements vague and misleading. 'Half an hour' means 'over the way'; 'one hour' means from two to five miles: 'two hours' may mean anything from five to ten miles. As a rule the natives know the time taken to the nearest market town or centre of government accurately enough, but are very vague as regards distances to places with which they are less familiar. A question regarding the distance to a place often divides a village group into two parties—say a 'three-hour party' and a 'five-hour party'.

'A horse hour' usually means from 3 to $3\frac{1}{2}$ miles. In mapping, $3\frac{1}{4}$ miles per hour is a satisfactory air-line allowance in level country, or $2\frac{1}{4}$ miles in mountainous country.

The ordinary rate of travel in Turkey is that of a caravan

of loaded pack animals, and is usually a little under 3 miles an hour. Supposing the stage to be an 'eight hours' one, about 10 hours' time should be allowed for the actual march.

Upon all routes, on some, of course, more than upon others, travelling is liable to interruption and delay—by flood, snow, frost, heavy rain, destroyed roads, or broken bridges. In winter deep snow may block the high passes, particularly in eastern Asia Minor, for weeks together, and even close lower roads for a time. Traffic then ceases, or is compelled to make detours involving great distances.

During the war some chaussées were greatly improved and put into excellent condition; various cart-roads also were formed into chaussées; and several entirely new chaussées were constructed, all for the purpose of military motor traffic.

II. RAILWAYS

History of Completed Railways

The history of railway construction in Asia Minor reflects the history of the political and economic penetration of the country by the different European Powers. The character of the railways built by the different Powers is an index of the policy pursued by these Powers in Turkey during the last sixty years. In the west, the interests of Constantinople, the administrative capital, and of Smyrna, the great trade emporium, have pulled different ways, and the contest has left its mark on the completed railway system.

The first railway in Asia Minor was built from Smyrna to Aidin by a British company in 1856. This line was extended to Egerdir in 1912, and its sphere has been expanded by a number of branch lines. The Smyrna–Aïdin company originally aimed at an extension to Konia via Chai and Ak Shehir, but this design was frustrated by the Anatolian railway when it secured the concession from Eskishehir to Konia.

In 1863 a British company obtained the concession for a railway from Smyrna to Kassaba. This line was continued

to Ala Shehir in 1870 and the whole concern was purchased and a concession for an extension to Afium Kara Hissar secured by a French company in 1893.

The Smyrna-Kassaba line comprised a branch from Magnesia to Soma, which was extended to Panderma on the Sea of Marmara in 1912.

In 1875 the foundation of the Baghdad railway was laid by the construction of a line from Skutari to Izmid. This section was built by the Turkish Government, and was sold in 1880 to a British group, with the right of repurchase at any time. This right was exercised in 1888, and the line was immediately resold to a combination of German banks. Since that date, Germany has steadily pushed forward the construction of a railway to Baghdad. The line was finished up to Angora in 1892, and up to Konia in 1896.

From 1896 to 1902, further construction was held up by diplomatic and financial difficulties. Two projects for the continuation of the line to Mesopotamia were under consideration; the first started from Angora and went via Sivas, Kharput, Diarbekr, and Mosul; the second crossed the Taurus Mountains above Adana, joined with the Mersina–Adana line, crossed the Amanus range and the Euphrates and went via Mosul to Baghdad. The superior commercial and strategic advantages of the latter route, connecting as it did with the lines and ports of Cilicia and Syria, recommended it in spite of its greater cost. The route by Sivas also fell under the Russian veto in 1902.

The concession for the Baghdad railway was granted to the Anatolian Railway Company in 1902, and modified in 1903. The concession was for 99 years, and it included a certain number of branch lines, and the right to construct ports at Baghdad and Basra. The company received an annual guarantee of 15,500 francs per kilometre, for constructional and running expenses.

The line was open for traffic as far as Nisibin in 1918. Meantime the section Baghdad-Samarra had also been built.

Table of Completed Railways

Name	*Owning Company.*	*Nationality.*	*Single or Double. Track.*	*Route.*	*Length.*	*Gauge.*
Anatolian Railway	Compagnie du Chemin de Fer d'Anatolie	German	Single (Double from Haidar Pasha to Izmid)	Haidar Pasha–Izmid–Afium Kara Hissar–Konia	717·1 km.	Normal 4 ft. 8½ in.
Baghdad Railway	Compagnie du Chemin de Fer de Baghdad	German	Single	Konia–Eregli–Bozanty–Adana–Aleppo–Nisibin [1]	108·0 km. (Konia to Nisibin)	Normal 4 ft. 8½ in.
Smyrna–Aïdin Railway	The Ottoman Railway Company	British	Double from Smyrna to Paradisos. Single line thence	Smyrna–Aidin–Dineir–Isbarta–Egerdir	471·12 km	Normal 4 ft. 8½ in.
Smyrna–Kassaba Railway	Société Ottomane du Chemin de Fer Smyrne–Cassaba et Prolongement	French	Single	Smyrna–Manisa–Ushak–Afiun Kara Hissar	421·9 km.	Normal 4 ft. 8½ in.
Brussa–Mudania Railway	Société Ottomane du Chemin de Fer Moudania–Brousse	French	Single	Brussa–Mudania	About 26 miles	1 metre

Name.	*Branches.*	*Kilometric Guarantee.*
Anatolian Railway	1. Arifie–Adabazar. 9 km. Normal 2. Adabazar–Düzje.[2] 40 miles (?) 3. Alayund–Kutahia. 10 km. Normal 4. Eskishehir–Angora. 263 km. 4 m. Normal 5. Angora–Asy Yozgad.[3] 24 miles. Narrow gauge	On length : Haidar Pasha–Izmid. 10,300 fr. per km. Izmid–Angora. 15,000 fr. per km. Eskishehir–Konia. 12,500 fr. per km.
Bagdhad Railway	1. Mersina–Yenije. 43 km. 450 m. Normal 2. Mersina–Selefke (?). 80 km. Narrow gauge 3. Toprak–Kale–Alexandretta. 65 km. 0 m. Normal	15,500 fr. per km.
Smyrna–Aidin Railway	1. Paradisos–Buja. 3 km. 620 m. Normal 2. Kazamir–Sevdi Köi. 1 km. 600 m. Normal 3. Torbaly–Ödemish.[4] 61 km. 950 m. Normal 4. Balachyk–Sokia. 22 km. 125 m. Normal 5. Gönjeli–Denizli. 9 km. 255 m. Normal 6. Sütlej–Chivril. 30 km. 575 m. Normal	No guarantee.
Smyrna–Kassaba Railway	1. Manisa–Soma–Panderma. About 113 miles. Normal (Smyrna–Panderma Railway)	On length : Smyrna–Alashehir. No guarantee. Alashehir–Afium Kara Hissar. Nearly 19,000 fr. per km. Manisa–Panderma. No guarantee.
Brussa–Mudania Railway		No guarantee.

[1] It was reported (October 23,1918) that the broad gauge railhead had reached Nameti, about 7 miles east of Nisibin, and that the formation level was completed as far as Demir Kapu Khan, but work in advance of that place had been discontinued. The railhead from the direction of Baghdad towards Mosul was in December 1918 at a point 25 miles north of Tekrit. Between that point and Mosul (109 miles) no construction has taken place. Nameti is 117 miles from Mosul.

[2] It is reported that the railway has been extended from Adabazar to Düzje.

[3] Since the outbreak of the War the Germans have completed a light railway to Asy Yozgad. The line does not appear to be completed beyond this point, though it was intended to continue it via Yozgad to Sivas.

[4] Another line branches off the Torbaly–Ödemish route at Chatal (36 km. 610 m. from Torbaly) and continues to Tire (11·26 km. from Chatal).

A concession was given in 1883 to two Ottoman subjects for the construction of a line from Mersina to Adana. This concession was taken over by an Anglo-French syndicate, and the railway was completed in 1886. The Deutsche Bank bought this railway in 1906, and it now belongs to the Baghdad Railway Company.

A System of Proposed Railways

The treatment of the subject of the proposed railways of Asia Minor is a little difficult. Companies of different nationalities have at one time or another applied for concessions to build railways in different parts of the country. The result is that a more or less complete system of essential railways—essential either from the military or from the commercial standpoint—has gradually been planned. For the sake of clearness it seems best to treat the proposed lines as one scheme, notwithstanding the fact that the plan is by no means the conception of a single body of concessionaires.

Briefly, the proposed railways in Asia Minor can be dealt with under two heads.

(1) Transcontinental lines.

(2) Lines connecting the chief ports of the country with the transcontinental lines.

(1) These lines are to run across the peninsula of Asia Minor from two points on the Baghdad railway, namely Izmid and Angora, to meet the two present terminal points of the Russian system at Erzerum and Karakilisse. For a portion of the distance a third line is to run intermediate between and parallel to the other two lines, being connected at its east and west extremities with both of them.

Probably the line of most importance consists in a combination of the three lines, namely, the line Angora–Haji Shefatly–Yeni Khan Sivas–Divrik–Erzinjan–Erzerum.

That route connects the more important centres of Anatolia and Armenia by a line as far removed as possible from interference from the sea. Were the line extended a short distance farther eastward to Karakilisse, the Russian railhead of the

Maku–Bayazid branch line, the whole system might eventually prove to be the main trunk route between Europe and Persia on the one hand and the Caucasus or Trans-Caspia on the other.

The southern route runs from Angora to Haji Shefatly along the same line as the intermediate route, and thence proceeds via Kaisari, Görün, Derende, and Malatia to Kharput, continuing thence via Mush to join the Russian system at Karakilisse.

A branch line from Divrik to Kharput connects the intermediate and the southern line.

To return to the continental line, the portion of it which lies between Haji Shefatly and Kharput, is only of secondary importance commercially, though very important strategically. Indeed the Turkish authorities were strongly in favour of building the original Baghdad railway via Angora and Kaisari or Sivas to Kharput, whence it was to be prolonged to Diarbekr and the plains of Mesopotamia.

The plan for a junction between Kharput, Diarbekr, and some point on the Baghdad railway near Nisibin still holds good, and would meet both commercial and strategic needs (*see* ALEXANDRETTA).

The northern line runs from Izmid via Düzje, Boli, Zafranboli, Kastamuni, Boyabad, and Khavsa to Amasia. Thence it will continue either direct via Turkhal or via Zile and Turkhal to Tokat, Ipsala, Enderez, Erzinjan, and Erzerum.

Erzerum is already connected by railway with Kars and the Russian system.

From Amasia a line primarily important as a line leading from Sivas towards the coast will connect this northern line with the intermediate line near Sulu Serai.

From Erzinjan a line is proposed—as already mentioned—to connect with the intermediate line at Divrik.

While this northern continental line does not connect centres of such importance as those linked up by the Angora–Sivas–Erzerum line, and while it therefore would not appear to take the first place as regards traffic between large towns,

yet, over the greater portion of its length it is commercially very desirable. It will have the effect of opening up the undeveloped forest area between Izmid and Boyabad. Between Boyabad and Tokat it runs through an important agricultural and mineral area, while the prolongation of the line from Tokat to Enderez will not only open up the fertile plain that surrounds the latter place, but will provide a much-needed avenue through which the very rich but equally isolated mineral district of Shabin Kara Hissar can export its ore to the coast.

The section of the line between Enderez and Erzinjan is difficult, is of little commercial importance, and only valuable in so far as its construction will complete the intercontinental connexion.

(2) The railway systems leading from Constantinople and Smyrna into the interior have already been completed. The systems based on Mersina and Alexandretta have been partially completed.

Railway schemes have been put forward for the development of Makri and Adalia.

It will be necessary to connect Samsun and Trebizond with the main railway system. It would be convenient to do the same with Tium.

Dealing generally with the importance of the above lines, it would seem that the construction of railways from the ports into the trade areas behind them is a more vital necessity for the commercial development of the peninsula of Anatolia, than the completion of the transcontinental railways as such.

Below are appended the proposals which have been made for the development of the several ports.

1. Mersina

A railway joining some point on the Baghdad railway near Ulu Kyshla with the large and important commercial centre of Kaisari is a necessity. On this line being completed Kaisari will be in direct railway communication with Mersina.

2. Alexandretta

Several railways which would tend to develop the hinterland of this port have been proposed.

The most important of these is that which it is proposed shall join Kharput with Diarbekr and a point on the Baghdad railway to the east of Ras el-Ain. This line—as previously mentioned—is important both from the strategic and from the commercial point of view. Its strategic value will be to form a link by which any of the proposed three continental lines can communicate directly with Mesopotamia. In this connexion it should be noted that the route Kharput–Diarbekr is the only route, excluding the Cilician Gates route, by which easy access to the south can be obtained from the plateau of Anatolia.

The commercial aim would not only be to open up the important Diarbekr district, but also to provide communication between the rich agricultural and mineral districts of Malatia, Kharput, and Mush on the one hand and Alexandretta on the other.

A line has also been proposed which will link Marash with some point on the Baghdad railway. It has been suggested to extend this railway to Malatia and Kharput. The extension would have to cross the Antitaurus and would appear to present great engineering difficulties, but this route would form a much more direct avenue of traffic to Alexandretta for the trade of Malatia, Kharput, and Mush than the route via Ras el-Ain. Further, were this line built it would—in conjunction with the projected Kharput–Karakilisse line, the Karakilisse–Pirnek branch line, the main Russian line thence to Julfa and the Julfa–Baku line which is nearly completed—prove to be the direct route between the Mediterranean and Baku or Trans-Caspia.

From Marash to Kaisari a line of purely strategic value has been planned.

If completed it would provide—in conjunction with the Kharput–Diarbekr line, and a further line from Erzerum via Mush to Bitlis and Mosul—three parallel lines of advance

from the plateaus of Asia Minor and Armenia towards Syria and Mesopotamia. Its construction would, however, appear very difficult, as it would have to cross the range of Anti-taurus.

The Erzerum–Mush–Bitlis–Mosul line is not merely a strategic line. The portion of it to the north of Mush would enable the products of the Mush and Lake Van area to be exported to Trebizond, while its southern extension via the Bitlis gorge to Mosul would provide communication between Erzerum or the Mush district and Mesopotamia.

A line is proposed from Bitlis to the shores of Lake Van. Between Van itself and the north-eastern extremity of the lake there is already communication by Russian steamers. From the shores of the lake at this north-eastern end a line is nearly completed to Bayazid whence a light railway connects with the Russian system.

Branch lines are contemplated from a point near Killis to Aintab, from a point to the east of Jerablus to Birijik, and from some other point on the Baghdad railway to Harran and Urfa.

These short branch lines would have the effect of connecting Aintab, Birejik, Urfa, and Harran directly with Alexandretta.

3. Trebizond

A railway joining this port with some point on the Erzinjan–Erzerum line has been proposed. The undertaking presents great difficulties. If the line, however, is not carried out it seems probable that Batum, which has already pushed its railways into north-west Persia, will monopolize the Persian export trade. It is uncertain what effect the Russian line to Erzerum will have on the trade of that district. In the event of a Russian railway being extended up the Chorukh valley from its present terminus at Artvin, it seems possible that Batum will capture the trade not only of north-western Persia but also of Erzerum. Even the Chorukh valley, however, presents difficulties, the river running for long distances in narrow gorges.

If the line were built to the coast near Trebizond, the route down the Karshut valley to Tireboli or from Baiburt to Sürmene might prove more easy than the one to Trebizond, which would follow a modification of the chaussée route.

4. Kerasund

A railway joining the port of Kerasund with Shabin Kara Hissar has been proposed. The completion of such a line would enable the rich mineral district around Shabin Kara Hissar to be developed. It is probable, however, that the construction of such a line presents difficulties.

5. Ordu

It has been proposed to run a railway from this port via Melet (Hamidie) to Enderez, where connexion could be made with the northern continental line. A line built along this route follows the natural breach in the coast-ranges afforded by the valley of the Melet Su, and would appear more easy to construct than a line from Kerasund.

If, in addition, a branch were run from Enderez to Shabin Kara Hissar, the line as a whole would open up the rich agricultural area of Enderez, the mineral beds around Shabin Kara Hissar, and the cattle-raising region of Melet (Hamidie).

Just west of Ordu is to be found the best anchorage on the Anatolian Black Sea coast.

6. Samsun

A line has been commenced between Samsun and Khavsa. At Khavsa the line joins the Izmid–Amasia–Erzinjan line, while from Amasia a line will continue via Zile and Sulu Serai to connect with the Angora–Sivas line.

The completion of these lines, in conjunction with the parts of the continental lines affected, will enable Samsun to tap by rail the trade of Boyabad, Amasia, Tokat, Enderez, Shabin Kara Hissar, Zile, Ak Dagh Maden, and Sivas. To fully develop the Samsun trade district two further branch railways are necessary.

(*a*) Khavsa–Merzifun–Chorum–Yozgad. The line would tap a potentially very rich agricultural district, that will remain neglected if a railway does not connect it with a port.

(*b*) Merzifun–Osmanjyk–Haji Hamza–Tosia. This line would also open up a very good agricultural district.

7. Tium

The valley of the Boli Su is not generally recognized as being a convenient outlet for the districts of Boli and Zafranboli. With harbour facilities at the mouth of the river, and a line connecting the harbour with the Izmid–Kastamuni–Amasia–Erzinjan transcontinental line, Tium should find itself the outlet of the trade carried by the continental line between Boli and Kastamuni.

8. Adalia.

A railway is proposed from Adalia via Kyzyl Kaya to Buldur whence connexion would be made with the present Ottoman railway at Baladyz to the west of Isbarta.

From Kyzyl Kaya branch lines are projected.

(*a*) West to Fughla.

(*b*) South-west via Istanoz to Elmaly and Kaz Chiftlik.

Another line is proposed to run east from Adalia to Alaya, with a branch through Sarylar up the Menavgat Chai to Akseki.

The building of these lines will facilitate the development of the Elmaly plateau, the Buldur and Isbarta districts, and the Pamphylian Plain to the east, all rich fruit and corn districts.

9. Makri.

From Makri two lines are proposed. The first is to run north-west from Makri via Mughla to Aïdin. There seems to be little commercial value in the stretch Makri–Mughla.

The good agricultural district of Mughla, on the other hand, would be developed and exports would be sent to Aïdin and Smyrna.

The second line is to run from Makri into the Xanthus valley, which is to be tapped by a line running north and south throughout its whole length as far as Ören. The agricultural possibilities of the valley are great.

10. Smyrna.

The following extensions of the line belonging to the Ottoman railway company have been proposed.

(*a*) Aïdin–Mughla. As already mentioned in reference to Makri this line would develop the good agricultural district of Mughla. At Mughla connexion would be made with the line from Makri.

(*b*) Kara Kuyu–Sandykly. There is a fairly productive agricultural district round Sandykly.

(*c*) Baladyz–Kyzyl Kaya via Buldur. As already mentioned in reference to Adalia this line will tend to open up the lake district. At Kyżyl Kaya the line from Adalia will be met.

(*d*) Dineir–Chai. This is an old scheme for a line that would link the Ottoman railway with Konia and the east. The route has been surveyed. It might be convenient in future to carry out the scheme, if direct communication between the Ottoman and Anatolian railways is required.

(*e*) Egerdir, to a point at about the middle of the east shore of the lake by steamer—thence via Kara Aghach to the north-western extremity of the Beyshehir lake by rail—thence to Beyshehir by boat. Thence via the Soghla lake to the Baghdad railway at Chumra.

This line in conjunction with the steam-boat services mentioned will effectively open up the rich eastern portion of the lake district.

History of Railway Proposals

The system of proposed railways that has been set forth in the preceding pages has been derived from a study of the various railway schemes that have been put forward at one time or another.

The chief sources from which railway schemes have

emanated, together with a brief history of each scheme, are appended here :

1. The directorate of the Chemin de Fer d'Anatolie contemplated railway extensions from Adabazar and Angora in an easterly direction. In 1893 the Germans were granted a concession to prolong the line from Angora to Kaisari and thence through Sivas and Diarbekr and down the Tigris to Baghdad. It seems that there were further clauses in this concession, and it was held in Germany in 1916 that the concession for railways from Angora by way of Kaisari to Sivas on the north and to Nigde and Ulu Kishla on the south, and from Adabazar to Boli, is still valid.

2. The directorate of the British-owned Ottoman railway company aimed not only at completing the line via Dineir to its present terminus at Egerdir, but also at extending it from Dineir to Chai and thence by the present route of the Anatolian railway to Konia.

This hope vanished when, in 1893, the Germans received the concession for a line from Eskishehir to Konia.

Since that date the British Company have had to limit themselves to schemes for exploiting the lake districts and the country to the south of their present line.

The proposed lines to Sandykly, to Kara Aghach, Beyshehir and Konia together with those to Kyzyl-Kaya and Mughla come within this last category.

Surveys for the extension to Konia were carried out in 1914.

3. The Italians intend to develop the ports of Makri and Adalia, and to construct railways which will open up the hinterland of those ports and possibly connect with the system of the Ottoman railway company.

4. First I. G. White & Company and then the Ottoman American Development Company (Chester group) proposed to construct railways from railhead at Angora and from the two ports of Samsun and Trebizond.

(*a*) To provide communication between Constantinople and the eastern frontier of Turkey.

(*b*) To provide communication between eastern Anatolia and Mesopotamia.

(*c*) To develop the hinterlands of the ports of Samsun and Trebizond.

The concession of a system of railways was applied for by Dr. Glasgow, representing I. G. White & Company on July 6, 1909. The system was to consist of the following railways :

Angora–Sivas.
Samsun–Sivas.
Sivas–Erzerum.
Trebizond–Erzerum.
Erzerum–Bayazid.
Sivas–Diarbekr
Diarbekr–Bitlis–Van.

a total of 2,764 km. with two ports on the Black Sea.

This application was rejected because of the Russian treaty clause giving Russia a veto over foreign enterprise in north-eastern Anatolia, but Dr. Glasgow was offered instead

Angora–Sivas.
Sivas–Diarbekr.
Diarbekr–Lake Van.

On Dr. Glasgow retiring from the field, Arthur T. Chester renewed the application and negotiated for some 3 years.

An agreement was come to and drafted in the form of a bill which was submitted to the Chamber of Deputies on May 19, 1911.

It included :

(*a*) A concession for a system of railways.

(*b*) A concession for mines.

The railways proposed were to be of 1·05 metre gauge as follows :

1. Kharput–Van via Arghana, Diarbekr, and Bitlis, following the north or south shore of Lake Van, with a navigation service on Lake Van.

2. Kharput–Yimurtalyk via the valley of the Jihan.

3. Branch from No. 1 to Sulcimanic via Mosul and Kerkuk.

A harbour was to be built at Yimurtalyk.

This concession was finally refused.

5. French railway companies entered the field after the Chester concessions had been refused. The concession was granted with Russian consent to Mm. Lamornaix and Delaurnay, acting on behalf of the Régie Générale des Chemins de Fer et Travaux Publics. In return for a French loan of £28,000,000 construction had commenced from Samsun towards Sivas when the War intervened. The following lines were to be built within ten years, with others in Syria.

(*a*) Samsun–Sivas–Kharput–Arghana.

(*b*) Arghana–Bitlis–Van.

(*c*) Trebizond–Bekirech.

(*d*) Sivas–Erzinjan–Bekirech.

(*e*) Khavsa–Kastamuni–? Boli.

Ports were to be built at Ineboli, Eregli, Samsun, and Trebizond.

6. The combined Turkish and German governments initiated schemes for the development of railways—principally of strategic value—after the outbreak of the War.

The lines were to run

(*a*) From Samsun and Trebizond.

(*b*) From Adabazar, Angora, and Ulu Kishla to develop communications between Constantinople and the eastern front, between the Black Sea ports and the interior, and between the plateaus of Asia Minor and Armenia on the one hand and the present Baghdad railway on the other.

Since the outbreak of the War construction has been commenced both from Angora towards Sivas and from Ada-Bazar towards Boli.

7. The Russian Government have, since the outbreak of the War, extended their lines towards the west, and contemplated, prior to the Revolution, further extensions from their present railheads.

These railways and railway projects cover much of the ground near the Turkish frontier, over which both the Chester

concessionaries and more latterly the French companies had intended to build their railways.

Under this category can be grouped:

(*a*) The completed line from Sarykamysh to Erzerum.

(*b*) The completed lines from Pirnek via Maku to Bayazid and Karakilisse on the one hand and from Julfa to Tabriz on the other.

(*c*) The partially completed line from Bayazid to Anis on the north-eastern shore of Lake Van, together with the steam-boat service thence to Van.

(*d*) The line completed between Sufian and the northern shore of Lake Urmia together with the steam-boat service to the south shores of the lake.

(*e*) The proposed railway from Karakilisse to Erzerum.

(*f*) The proposed railway via Mush towards Palu and Kharput.

APPENDIX 1

THE RACES OF ASIA MINOR AND THEIR DISTRIBUTION

In this appendix the classification of von Luschan in his 'Early Inhabitants of Western Asia' (Huxley Memorial Lecture 1911) has been adopted as a basis, and information regarding distribution added from various other sources.

A. *Dark Africans* (*Arab*, *Maghrebi*, *Habeshi*)

Negro slaves are frequently met with in the larger towns, and there are still a few negro settlers, dating from Ibrahim Pasha's campaign, on the lower Jihan in Cilicia, who live in huts like those in Ethiopia, secluded from the rest of the population. Here they are called 'Arab' by the Turks.

B. *Circassians* (*Cherkes*)

About a million of the Moslem inhabitants of the Caucasus immigrated into Asia Minor and Syria after the fall of Shamyl. The Ottoman Government did its best to give them land; but they became involved in a state of war with the older inhabitants, and in many districts were killed off. In other places they were settled on waste land near marshes, where malaria carried them off. They mix or intermarry but little with their Turkish neighbours. Many of them speak Russian as well as Turkish.

The chief Circassian settlements in Anatolia are in the Usun Yaila, the Yeni Khan valley in eastern Cappadocia (where they are prosperous farmers), in north-western Phrygia, in the Bithynian peninsula, and in the south-east of Asia Minor (the valleys on the flanks of Ala Dagh, Antitaurus, the Göksün Su valley, the Jebel Missis, and the Cilician plain).

C. *Albanians* (*Arnaut*)

There are said to be about 100,000 Albanians in Asiatic Turkey as a whole, the great majority being found in Anatolia. They are employed as soldiers, government officials, kavasses, bath-attendants, and khanjis. They use their own language as well as Turkish, are proud of their nationality, and rarely intermarry with aliens.

D. *Bulgarians* (*Bulghar, Pomak*)

Immigrant Bulgarian Moslems, called Pomak, to the number of a few thousand, are settled in towns and villages near Constantinople, on the north coast of Anatolia, and in the Cilician plain. They retain the use of their own language.

E. *Bosnians* (*Bosnali, Boshnak*)

These are Moslem Slavs from Bosnia and Herzegovina who have migrated to Turkey to escape Austrian rule. They are mostly settled round Brussa, and speak Serbo-Croatian. Few of them know Turkish.

F. *Franks or Levantines* (*Frenghi*)

This is the common name for the European Christians in Turkey. The name is properly applied only to those European Christians who have lost their nationality, and become Ottoman subjects. They are mostly descended from French or Italian families, and are nearly all Roman Catholics. They are found in all the larger towns of Anatolia, especially on the coast.

G. *Jews* (*Yehudi*)

The Jews of Anatolia are chiefly immigrants from Spain or Russia. The former are the descendants of the Sephardim, who were expelled from Spain in the fifteenth century, and still speak a Spanish dialect. They are the most numerous section of Jews in Anatolia, living in the larger towns and enjoying great political and economic influence.

A smaller section is the Ashkenazim, who are descended

from Jews derived from Eastern Europe, and speak Yiddish. The difference between the two was originally geographical and accidental, but they now hold themselves rigidly apart, and despise each other.

Besides these two main sections, there are other Jews in Anatolia who have been there since the Greek and Roman periods. These are few in number.

H. *Gipsies* (*Chingene*) *Aptal*, &c.

There are said to be in Turkey as a whole about 30,000 gipsies and their kin. They are pure nomads, wandering in winter in the plains, in summer in the mountains. They speak Turkish in Asia Minor, and keep their own language secret. They do not mix with other tribes, and are held in disesteem. They are found in isolated groups all over the country.

I. *Turkomans* (*Türkmen*)

On the Turkmens see p. 177. They are in process of settling down, and, where still nomadic, they wander in small groups, generally of one or two families. The nomads are recognizable by their rounded tents, their two-humped camels (all the other nomadic groups having the dromedary), their short build, slanted Mongolian eyes, triangular countenances, small round heads, and scanty beard. They are engaged for the most part in stock-raising (sheep, cattle, and camels) and practise a little agriculture. They speak Turkish.

The chief groups of Turkmens (nomadic, semi-nomadic, and settled) are found in the mountains behind Unie (where they burn charcoal and smelt iron), round Yozgad, between Erjies Dagh and Hassan Dagh, between the Salt Lake and the Halys, on the central Lycaonian steppe, in and around Eregli in southern Lycaonia, on the steppes round Boghaz Köi in eastern Galatia, in southern Paphlagonia, on the plains of the Haimane, on the slopes of Günüsü Dagh east of Sivri Hissar, in north-eastern Lycia, in Cilician Taurus and the Cilician plain, on the middle Amanus, and in the Palanga Ova in Antitaurus.

J. *Yuruks* (*Yürük*)

On the Yürüks see p. 177. In the last half century they have largely been forced to settle down in most parts of Anatolia, especially in or near mountain districts, where they move regularly from *kyshla* to *yaila*. Nothing is known of their descent. Their language has died out, and they now speak Turkish. Marriage with settled Turks is practically unknown. They are honest and industrious, and their women are skilful carpet weavers.

Settlements of Yürüks are found all over Anatolia. They are most numerous in the following districts:

In south-western Cappadocia (especially east of Koch Hissar and round Koja Dagh—semi-nomadic), in southern Paphlagonia (semi-nomadic), in north-western Phrygia, around Kutahia (settled), on Sultan Dagh (nomadic), on the south-western flank of Sultan Dagh (semi-nomadic), settled in villages in Banaz Ova and in the wooded country between Edremid and Simav, semi-nomadic on Kosak Dagh and Yund Dagh on either side of the Pergamene plain, settled in the Pergamene plain itself, recently settled in eastern Mysia (east of the Susurlu Chai), and in the valley of the Demirji Chai and the Lydian Katakekaumene. There are many Yürük villages on the southern slopes of Tmolus (Boz Dagh), and small hamlets round Kelles, Baliamboli, and Buladan. Nomadic Yürüks form the majority of the population in the marshy region round ancient Miletus, in eastern Karia around the Ak Chai, and in central and eastern Lycia. The Yürüks in the plain of Pamphylia migrate in summer to the mountains surrounding the plain. There are also nomadic or semi-nomadic Yürüks in northern Pisidia, in Cilicia Aspera, in Cilician Taurus, and settled Yürüks in the Cilician plain.

Especially in the west of Anatolia the Yürük settlements are quite recent.

K. *Kurds* (*Kürd*)

Kurdistan proper, where the Kurds have lived for 3,000 years, lies between the Bitlis Su and the Diala. Here there

are two castes, the Guran or peasants and the Ashiret or warrior caste. The Guran are dark-haired roundheads, while the warriors are fair and dolichocephalic. The former, who are four or five times as numerous as the warriors, are apparently descended from the old 'Hittite' population, who have been subdued by a northern Indogermanic race, and learnt their language. It is mainly the warrior caste which migrates; hence the majority of the Kurds in Armenia and Anatolia are of the fair type, although even here there is a considerable admixture of the dark type, derived from Guran and from 'Kurdised' Armenians. In the west, too, the caste system breaks down.

The Kurds are mainly a pastoral people; as they settle down, they engage in agriculture. They are also employed as porters in the towns, as navvies on road and railway construction, and as miners.

All the men, in Anatolia, can speak Turkish, but the language of family life is Kermanji, a dialect of Persian. The women often know very little Turkish.

The tribal distribution of the Kurds has been examined in detail by Sir Mark Sykes in *The Caliphs' Last Heritage*, pp. 553–8, to which reference should be made. His figures show a considerable settlement of Kurds in the Antitaurus region, along the basin of the Kyzyl Irmak, and around Angora. It should be added that there are settled Kurds in the Cilician plain, and that large numbers of Kurds go there from the country between Amanus and Diarbekr for the harvest. Isolated groups of nomadic Kurds may be met with all over the country.

L. *Takhtajy* (lit. '*Woodcutters*')

In Lycia there are said to be about 1,000 families of a people calling themselves 'Woodcutters', after their principal occupation. Takhtajy are also found, scattered in small communities, all along the mountains of the south coast.

They speak Turkish, and are officially classed as Moslems, but they are looked on as heretics. They are called by their

Moslem neighbours *Allevi*, which is perhaps a variant of *Ali-Illahi*, or worshippers of Ali. They live high up in the mountains, and keep rigidly apart from the other inhabitants of the country. Their women have a more independent position than Moslem women generally; they go unveiled, and take meals with the men. Marriage between brother and sister is permitted, but is not common. They regard the hare and the turkey as unclean, and the word *sheitan* (devil) must not be pronounced in their presence. They use Moslem names, but avoid certain names such as Omar, Bekir, Osman. Their tenets include the theory of the transmigration of souls, and they look on the four prophets of Islam—Moses, David, Jesus, and Mohammed—as incarnations of the same person. They dress like their neighbours. They mostly live in tents, living a life apart, make all that they require for themselves, and go down to the coast cities only to sell their produce. A similar sect, the Bektash, live in the towns of Lycia.

M. *Ansarie*

Exactly corresponding to the Takhtajy and Bektash of Lycia are the Ansarie or Nusarie, who dwell in Cilicia and northern Syria. Their creed is similar to that of the Takhtajy. In Cilicia they are to be found occasionally in the towns, especially in Alexandretta, but their chief haunt is the Amanus range, and they are met with in increasing numbers as Antioch is approached. The Ansarie speak Arabic.

N. *Kyzylbash* (lit. '*Red-heads*')

The Kyzylbash are scattered over many parts of Anatolia. Though many of them speak Kurdish and are often described as Kurds, they are racially a separate people like the Takhtajy and Bektash, with whom they are probably akin. All three sects are said to display the physical characteristics of the indigenous stock of Asia Minor. The Kyzylbash appear to be derived partly from Shias of Turkish origin, who were forcibly transplanted from Persia during the reigns of Selim I and Suleiman I and partly from the original inhabitants of the

country. The tenets of the latter retain traces of Paganism, Christianity, Manichaeism, and Islam.

They are found in the country between Beybazar, Angora, and Osmanjyk, along the middle Halys, and again in the Dersim, and on both sides of eastern Taurus. The western Kyzylbash speak Turkish, the eastern Kurdish. They are industrious and skilful farmers and gardeners.

O. *Arabs* (*Arab*)

Arabic-speaking Syrians form an important element in the town-populations of Cilicia, and there are many 'Arabs' in the large towns on the south and west coasts.

P. *Tatars* (*Tatar*)

Along the north coast, scattered over the central plains, and on the Cilician plain, are villages of Tatars from Russia. Those of the Cilician plain—to the number of 20,000 families—left Russia after the Crimean war. Their numbers are now reduced to about 2,000 families. The Tatars are industrious peasants, and especially on the north coast hire themselves as wagon-drivers.

Q. *Avshars* (*Avshar*)

The Avshars are a Turkmen tribe whose kinsmen are still to be found in parts of Persia, and seem to have made their way into the Cilician plain about the middle of the fifteenth century. Thence they spread to the regions of Antitaurus in search of summer pastures, and eventually established themselves there in a state of virtual independence.

About 1870 the Turkish Government began to take measures to subdue them, and employed Circassian settlers to circumscribe their migrations. The Circassian villages were planted in the neighbourhood of the chief passes, and a long and bloody war ensued between the two races.

The Avshars were thus forced to settle down, and their villages are confined to three regions, viz.: (i) the south-east foot of Kale Dagh (west and south-west of Azizie), (ii) between the Zamanty and the western range of central Antitaurus,

(iii) the valley of the upper Sarys. The domain allotted to the Avshars by the Turkish Government begins north of the Bakyr Dagh.

R. *Turks* (*Türk, Osmanli*)

On the Turks see p. 176. They form the predominant element, both of the peasantry and of the town population, all over Anatolia. Map 4 shows how they dovetail into other racial groups on the east of Anatolia.

S. *Greeks* (*Rûmi*)

On the Greeks see p. 183. The relative proportions of Greeks and Moslems in each kaza, according to Greek and Turkish official figures, are shown in Appendix 2.

The districts thickly inhabited by Anatolian Greeks proper are the Pontic area, lying between Kerasund, Shabin Kara Hissar, Gümüsh Khane, and Rize ; and the Cappadocian area, which falls into two sections centring in Pharasa and Melegob respectively. In both of these areas ancient Greek survives in dialectic form. Anatolian Greeks are also scattered over all the towns and larger villages of the country. Hellenes, immigrants from Greece and the Islands, are mainly confined to the west coast. Recent settlements of Greeks are found along the railways.

T. *Armenians* (*Ermeni*)

So far as Anatolia is concerned, the Armenian population should be considered under two heads—town-dwellers and peasants. Armenians have a quarter to themselves in every large town in Anatolia. As peasants they are confined to the eastern part of the country ; the most westerly settlement of Armenian peasants is Istanoz, west of Angora. In the vilayet of Sivas, in Antitaurus, and in Cilicia there are considerable numbers of Armenian peasants.

APPENDIX 2

STATISTICS OF POPULATION

In this Appendix are given (A) Cuinet's figures (1890–5); (B) The Greek Patriarchate figures (1912); (C) The Turkish Official Statistics (1914). It should be noted that in the interval between (B) and (C) various administrative rearrangements had been effected, several sanjaks having been made 'independent', and kazas having been moved from one sanjak to another or newly created. This makes detailed comparison of the figures difficult. Further, (C) does not include the figures for the Asiatic side of the Vilayet of Constantinople (sanjak of Skutari in B). To supplement this omission, the Turkish statistics of the year 1910 for this area are given at the end of (C). Cuinet's figures, which are out of date, are given only because his principle of classification is not represented in the other lists.

The figures which appear on Map 4 have been worked out by a careful authority who used the information contained in all three lists, and checked it by independent information in respect of various districts.

As between (B) and (C) the former is probably the more accurate in regard to the Greek population, the latter in respect to the Moslem. It should be borne in mind that the lists relate to different years, and that there was a considerable immigration of European Moslems into Anatolia after the Balkan War.

In (B) there are many inaccuracies, which have been left standing, as it is uncertain how far they are due to mistakes in compilation, and how far to misprints.

The Turkish official figures (1914) for the Vilayet of Mamuret ul-Aziz and the Sanjaks of Erzinjan and Marash, parts of which lie on the eastern border of Anatolia, are given separately in (D).

(A) CUINET'S FIGURES, 1890–5

The following tables for the Anatolian vilayets, classifying the Moslems under Sunnis and Shiites, and the Christians, &c., according to race and creed, are put together from the figures given by Cuinet from Turkish official sources. It should be noted (*a*) that Cuinet's figures refer to the years 1890–5 ; (*b*) that even for that period they were only approximate and often obviously incorrect in the respective estimates of Moslems and Christians ; (*c*) that several causes, including the normal movement of population, the wastage of war, the recent immigration of large numbers of Moslems from the Balkans, and the systematic extermination of Armenians and Greeks during the war, give the figures only a historical interest in respect of many regions.

APPROXIMATE STATISTICS OF ANATOLIAN POPULATION ACCORDING TO CUINET

A. MOSLEMS

Vilayet or Sanjak (A.D. 1895).	*Total.*	I. Sunnis.					II. Shiites.		
		Turks & Turkmens.	*Arabs.*	*Kards & Turkmens.*	*Turkmens.*	*Circassians & Lazis.*	*Kyzylbash & Persians.*	*Ansarie.*	*Gipsies.*
Constantinople (Asiatic Side)	240,381	139,552	—	—	—	C. 6,882	—	—	990
Izmid . . .	222,760	117,214	—	—	330	C. 12,171	—	—	1,115
Brussa . . .	1,626,839	1,296,593	—	—	—	—	—	—	—
Dardanelles . .	129,438	105,042	—	—	1,541	—	—	—	—
Aïdin . . .	1,396,477	1,093,334 ?	—	—	—	—	—	—	—
Konia . . .	1,088,000	989,200	—	—	—	—	—	—	15,000 ?
Angora . . .	892,901	763,119	—	—	—	—	—	—	997
Kastamuni . .	1,025,542	996,946	—	—	—	—	—	—	—
Sivas . . .	1,086,455	559,680	—	—	—	—	K. 279,834	—	—
Adana . .	403,539	93,200	12,000	39,600 K. & T.	—	C. 13,200	P. 4,400	56,000	16,050
Trebizond . .	1,047,700	691,700	—	—	—	L. 55,000 C. 60,000	—	—	—
	9,160,032	6,845,580	12,000	39,600	1,871	147,253	284,234	56,000	34,152

B. CHRISTIANS, &c.

Vilayet or Sanjak (A.D. 1895).	I. Greeks and Latins.			II. Armenians.			III. Syrians.		IV.	V.	VI.	VII.	VIII.
	Total.	*Greeks.*	*Latins.*	*Armenians.*	*Armenian Catholics.*	*Armenian Protestants.*	*Greek Orthodox.*	*Maronites.*	*Copts.*	*Bulgars.*	*Foreigners*	*Protestants.*	*Jews.*
Constantinople (Asiatic Side)	240,381	44,164	—	36,560	1,833	350	—	—	—	—	4,380	—	5,670
Izmid . .	222,760	40,795	—	46,308	390	1,937	—	—	—	—	—	—	2,500
Brussa . .	1,626,839	230,711	—	85,354	3,033	604	—	—	—	1,990	5,329	—	3,225
Dardanelles .	129,438	17,585	92	1,636	—	52	—	—	—	494	—	8	2,988
Aïdin . .	1,396,477	208,283	1,177	14,103	737	265	—	—	—	415	55,647	—	22,516
Konia . .	1,088,000	73,000	—	9,700	—	—	—	—	400	—	—	100	600
Angora . .	892,901	34,009	—	83,063	8,784	2,451	—	—	—	—	—	—	478
Kastamuni .	1,025,542	22,859	—	3,751	68	—	—	—	2,079	2	—	—	17
Sivas . .	1,086,455	76,068	—	129,523	10,477	30,433	—	—	—	—	40	—	400
Adana . .	403,539	46,200	—	69,300	11,550	16,600	20,900	4,539	—	—	—	—	—
Trebizond .	1,047,700	193,000	400	44,100	2,300	800	—	—	—	—	—	—	400
	9,160,032	986,674	1,669	523,318	33,015	53,492	20,900	4,539	2,479	2,901	65,396	108	38,794

(B) GREEK PATRIARCHATE FIGURES, 1912

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF CONSTANTINOPLE (ASIATIC PORTION) AND THE INDEPENDENT GOVERNMENTS OF DARDANELLES AND IZMID. 1912.

Sanjaks.	*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Bulgarians.*	*Jews.*	*Gipsies.*	*Other Nationalities.*	*Total.*
Skutari.	1 Skutari	81,117	34,640	50,360	—	5,670	—	17,000	168,787
	2 Kartal	10,500	9,670	2,200	—	25	—	—	22,995
	3 Gebze	12,300	8,000	—	—	—	—	300	20,600
	4 Princes Islands	670	10,250	900	—	—	—	800	12,020
	5 Beykoz	4,894	2,597	1,900	—	—	—	397	9,788
	6 Shile	14,800	9,300	800	—	—	—	—	24,900
		124,281	74,457	35,560	—	5,695	—	18,497	258,490
Ind. Govt. of Dardanelles.	1 Dardanelles	26,875	11,500	1,284	—	2,825	—	66	42,550
	2 Ezine	15,434	6,900	621	—	165	—	6	23,126
	3 Bairamich	19,889	1,000	25	—	251	—	9	21,174
	4 Bigha	58,588	9,100	398	—	98	—	—	68,184
	5 Aivajyk	18,116	4,330	8	—	1	—	—	22,455
		138,902	38,830	2,336	—	3,340	—	81	177,489
Ind. Govt. of Izmid.	1 Izmid	18,223	3,603	18,550	—	2,500	—	—	42,876
	2 Karamursal	5,000	19,732	2,875	—	—	—	—	27,607
	2 Yalova	5,000	14,894	1,000	—	—	—	—	20,894
	4 Adabazar	32,374	14,333	14,220	—	—	1,007	—	61,934
	5 Kandra	37,452	7,689	5,101	—	—	—	—	50,242
	6 Geive	18,900	12,889	6,889	—	—	108	—	38,780
		116,949	73,134	48,635	—	2,500	1,115	—	242,333
Total of Vilayet of Constantinople (Asiatic portion).		(See above)							
Total of Independent Govts. of Dardanelles and Izmid		255,851	105,964	50,971	—	5,840	1,115	81	419,822

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF SIVAS. 1912.

Sanjaks.		*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Total.*
Sivas.	1	Yildiz	41,300	—	5,731	47,031
	2	Sivas	86,171	962	17,233	104,366
	3	Tunus	58,585	—	4,672	63,257
	4	Azizie	89,189	—	2,743	91,932
	5	Görün	20,925	—	3,865	24,790
	6	Derende	21,174	—	3,993	25,167
	7	Divrik	36,781	—	8,081	44,862
	8	Kochkyry	41,066	6,740	11,258	59,064
	9	Hafyk	56,023	—	6,494	62,517
			451,214	7,702	64,070	522,986
Amasia.	1	Amasia	48,000	3,038	12,640	63,678
	2	Mejid Özü	18,700	1,738	2,568	23,006
	3	Hajiköi	17,005	—	7,012	24,017
	4	Merzifun	24,000	6,082	5,820	35,902
	5	Ladik	31,995	6,602	8,420	47,017
	6	Khavsa	18,800	12,577	2,560	33,937
	7	Osmanjyk	20,000	—	7,960	27,960
	8	Vezir-Köprü	19,500	6,702	3,620	29,822
			198,000	36,739	50,600	285,339
Kara Hissar Sharki.	1	Messudie	7,110	6,437	2,826	16,373
	2	Kara-Hissar	9,000	14,250	4,800	28,050
	3	Sushehir	7,500	2,920	3,670	14,090
	4	Koïli Hissar	7,390	1,720	3,250	12,360
	5	Reshadié	7,500	2,434	3,500	13,434
			38,500	27,761	18,046	84,307
Tokat.	1	Tokat	61,875	5,757	15,466	83,098
	2	Niksar	15,675	6,359	3,891	25,925
	3	Erbaa	31,350	15,058	7,837	54,245
	4	Zile	42,900	—	10,725	53,625
			151,800	27,174	37,909	216,893
Total of Vilayet of Sivas			839,514	99,376	170,635	1,109,535

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF BRUSSA. 1912.

Sanjaks.		*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Bulgarians.*	*Jews.*	*Other Nationalities.*	*Total.*
Brussa.	1	Brussa	72,993	21,850	14,584	—	2,548	1,251	113,226
	2	Kios	12,354	13,000	23,895	—	—	777	50,026
	3	Mikhalij	43,259	16,745	3,218	—	73	441	63,736
	4	Mudania	8,404	26,710	—	—	—	—	35,114
	5	Kirmasti	33,777	3,800	4,887	—	80	—	42,544
	6	Adranos	44,705	400	4,225	—	—	—	49,330
			215,492	82,505	50,809	—	2,701	2,469	353,976
Bilejik.	1	Bilejik	74,465	13,250	3,552	—	6	—	96,273
	2	Sügüt	32,142	4,000	3,651	—	47	—	39,840
	3	Inegöl	45,000	—	2,149	—	—	—	47,149
	4	Yenishehir	42,784	9,720	3,470	—	—	—	55,974
			194,391	26,970	17,822	—	53	—	239,236
Afium Kara Hissar	1	Afium Kara Hissar	75,406	1,200	4,812	—	—	—	81,418
	2	Bolavadyn	33,770	—	—	—	—	—	33,770
	3	Sandykly	104,612	—	170	—	—	—	104,782
	4	Azizie	30,910	—	58	—	—	—	30,968
			244,698	1,200	5,040	—	—	—	250,938
Kutahia.	1	Kutahia	106,176	6,800	3,307	—	—	—	116,283
	2	Eskishehir	38,200	4,500	4,074	—	100	—	46,874
	3	Ushak	70,000	3,800	1,419	—	—	—	75,219
	4	Gediz	39,264	1,500	—	—	—	—	40,764
	5	Simav	37,677	200	—	—	—	—	37,877
			291,317	16,800	8,800	—	100	—	317,017
Balikesr.	1	Balikesr	103,624	16,184	2,574	—	—	—	122,382
	2	Aivalyk	89	46,130	—	—	—	—	46,219
	3	Kemer	12,549	7,239	9	—	—	—	19,797
	4	Edremid	27,393	13,033	—	—	—	32	40,458
	5	Artaki	5,418	54,700	952	—	—	1,083	62,153
	6	Gönen	25,601	2,850	44	—	—	—	28,495
	7	Panderma	36,976	9,610	3,879	1,635	—	915	53,015
	8	Bighadj	12,771	—	29	—	—	—	12,800
	9	Sindirgi	22,430	1,200	8	—	—	—	23,638
			246,851	150,946	7,495	1,635	—	2,030	408,957
Total of the Vilayet of Brussa			1,192,749	278,421	89,966	1,635	2,854	4,499	1,570,124

ATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF AÏDIN. 1912.

m-ks.		*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Bulgarians.*	*Jews.*	*Other Nationalities.*	*Total.*
Smyrna.	1	Smyrna and Nymphaeon	96,250	243,879	7,628	415	16,450	51,872	416,494
	2	Vurla	4,445	40,670	—	—	15	260	45,390
	3	Cheshme	7,780	50,709	—	—	50	500	59,039
	4	Karaburun	8,000	15,510	—	—	—	—	23,510
	5	Sivri Hissar	9,800	11,667	—	—	40	100	21,607
	6	Fochatyn	2,100	19,514	350	—	250	100	22,314
	7	Menemen	10,309	11,216	508	—	100	1,500	21,633
	8	Kush Adasy	8,775	11,052	59	—	140	200	20,226
	9	Bayndyr	9,300	6,850	150	—	25	—	16,325
	10	Tire	20,500	5,000	—	—	10	300	25,810
	11	Ödemish	19,500	7,700	1,200	—	50	150	28,600
	12	Bergama	22,735	25,277	1,500	—	1,000	586	51,098
			219,494	449,044	11,395	415	18,130	55,568	754,046
Manisa.	1	Manisa	37,900	38,926	2,000	—	1,000	600	30,426
	2	Soma	5,000	1,890	—	—	—	—	6,890
	3	Kyrkaghach	35,373	5,173	—	—	—	—	40,546
	4	Ak Hissar	14,500	9,586	882	—	—	—	24,968
	5	Kassaba	26,900	6,090	1,000	—	600	—	34,590
	6	Gördiz	18,040	2,600	—	—	—	—	20,640
	7	Eshme	26,128	750	—	—	—	—	26,878
	8	Demirji	21,362	1,640	—	—	—	—	23,002
	9	Salykhly	21,318	4,220	—	—	—	—	25,538
	10	Kula	13,747	6,950	—	—	—	—	20,697
	11	Alashehir	27,510	5,800	78	—	27	335	33,750
			247,776	83,625	3,960	—	1,627	935	337,925
Aïdin.	1	Aïdin	46,578	19,982	300	—	1,890	114	68,864
	2	Sokia	12,987	25,801	59	—	—	—	38,847
	3	China	24,975	550	1	—	—	—	25,526
	4	Bozdoghan	27,945	1,500	—	—	14	—	29,459
	5	Nazly	50,069	6,800	274	—	120	—	57,863
			162,554	54,633	634	—	2,024	114	219,959
Denizli.	1	Denizli	33,316	3,580	430	—	—	—	37,326
	2	Serai Köi	12,200	3,000	—	—	—	—	15,200
	3	Buladan	22,481	400	—	—	—	—	22,881
	4	Chal	40,882	320	—	—	—	—	41,202
	5	Kara Aghach	36,062	220	—	—	—	—	36,282
	6	Davas	52,376	190	—	—	—	—	52,566
			197,317	7,710	430	—	—	—	205,457
Mentesha.	1	Mughla	38,757	3,930	—	—	—	114	42,801
	2	Mermeris	12,128	720	—	—	—	—	12,848
	3	Budrum	8,817	5,060	—	—	—	131	14,008
	4	Milas	21,187	7,071	—	—	—	336	28,594
	5	Köijigez	18,569	1,800	—	—	—	—	20,369
	6	Makri	14,242	9,217	—	—	—	63	23,522
			113,700	27,798	—	—	—	644	142,142
tal Vilayet of Aïdin.			940,843	622,810	16,419	415	31,781	57,261	1,659,529

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF ANGORA. 1912.

Sanjaks.	*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Jews.*	*Gipsies.*	*Other Nationalities.*	*Total*
Kaisari.	1 Kaisari .	91,313	14,152	27,080	—	—	2,503	135,048
	2 Develi .	23,967	5,049	12,335	—	—	342	41,693
	3 Injesu . .	13,507	4,000	33	—	—	—	17,540
		128,787	23,201	39,448	—	—	2,845	194,281
Yozgad.	1 Ak Dagh Maden	25,589	12,911	4,992	—	332	—	43,824
	2 Yozgad . .	48,000	3,230	22,000	—	1,555	3,000	75,785
	3 Sungurlu .	26,658	1,100	1,205	—	537	121	29,619
	4 Chorum .	30,000	1,560	5,109	—	—	—	36,669
	5 Boghazlayan .	27,090	—	12,679	—	—	250	40,019
		157,337	18,801	44,985	—	2,424	3,371	226,912
Kyrshehir.	1 Mejidie . .	10,178	—	—	—	—	—	10,178
	2 Keskin . .	40,589	—	223	—	—	—	40,812
	3 Kyrshehir .	45,565	717	123	—	—	—	46,405
	4 Avanos . .	20,667	—	—	—	—	—	20,667
		116,999	717	346	—	—	—	118,062
Angora.	1 Angora . .	32,692	3,154	12,019	478	—	109	48,452
	2 Beybazar .	19,133	—	—	—	—	—	19,133
	3 Nallykhan .	15,607	—	—	—	—	—	15,607
	4 Kalejik .							
	5 Chybuk Abad .							
	6 Yaban Abad .							
	7 Mikhalyjyk .							
	8 Ayash . .	197,851	—	2,000	—	—	—	199,851
	9 Sir . .							
	10 Sivrihissar .							
	11 Haimane .							
	12 Kassaba-i-bala							
		235,283	3,154	14,019	478	—	109	283,043
Total of Vilayet of Angora		668,400	45,873	98,798	478	2,424	6,325	822,298

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF TREBIZOND. 1912.

Sanjaks.		*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Total.*
Trebizond.	1	Trebizond	89,225	38,625	11,915	139,765
	2	Sürmene	44,312	8,804	282	53,398
	3	Akche Abad	40,265	11,081	4,204	55,550
	4	Vakf-i-Kebir	23,492	762	80	24,334
	5	Gerele	33,682	640	211	34,533
	6	Tripoli	30,999	17,821	708	49,528
	7	Kiresun	46,207	44,214	6,582	92,003
	8	Ordu	92,191	19,390	7,339	118,920
	9	Jevizlik	4,283	13,437	—	17,720
			404,656	154,774	26,321	585,751
Janyk.	1	Fatza	29,119	2,670	887	32,676
	2	Unie	50,083	7,552	4,942	62,577
	3	Charshembe	73,605	9,727	14,382	97,714
	4	Samsun	39,599	78,643	1,264	119,506
	5	Bafra	41,048	37,495	1,110	79,653
			233,454	136,087	22,585	392,126
Lazistan.	1	Rize	93,176	1,424	—	94,600
	2	Atina	37,622	400	—	38,022
	3	Hoppa	33,520	400	—	33,920
	4	Of	67,567	700	—	68,267
			231,885	2,924	—	234,809
Gümüsh Khane.	1	Gümüsh Khane	25,091	5,997	1,367	32,455
	2	Torul	23,512	48,135	—	71,647
	3	Kelkit	25,564	1,626	126	27,316
	4	Sheiran	13,704	2,990	225	17,919
			87,871	59,748	1,718	149,337
Total of Vilayet of Trebizond			957,866	353,533	50,624	1,362,023

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF KONIA. 1912.

Sanjaks.	*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Gipsies.*	*Jews.*	*Other Nationalities.*	*Total.*
Konia.	1 Ak Shehir	36,051	1,860	—	—	—	—	37,911
	2 Ilghin	21,455	690	—	—	—	—	22,145
	3 Konia	51,986	4,822	5,000	12,000	70	430	74,308
	4 Beyshehir	37,919	—	—	—	—	—	37,919
	5 Seidishehir	25,513	—	—	—	—	—	25,513
	6 Bozkyr	31,107	310	—	—	—	—	31,417
	7 Khadem	10,143	—	—	—	—	—	10,143
	8 Karaman	20,316	601	—	—	—	—	20,917
	9 Eregli	18,749	306	—	3,000	—	—	22,055
	10 Karapunar	23,427	—	—	—	—	—	23,427
	11 Koch Hissar	17,525	—	1,900	—	—	—	19,425
		294,191	8,589	6,900	15,000	70	430	325,180
Adalia.	1 Adalia	66,542	6,916	78	—	375	—	73,911
	2 Elmaly	39,565	1,222	411	—	29	—	41,227
	3 Kash	34,272	465	—	—	—	—	34,737
	4 Akseki	22,854	150	—	—	—	—	23,004
	5 Alaya	32,854	6,500	—	—	25	—	34,379
		196,087	10,253	489	—	429	—	207,258
Buldur.	1 Buldur	88,600	2,565	987	—	45	—	91,165
	2 Tefeni	61,368	—	—	—	—	—	61,368
		149,968	2,565	987	—	45	—	153,565
Isbarta.	1 Isbarta	51,100	6,574	600	—	20	3	58,297
	2 Egerdir	63,000	2,222	—	—	—	—	65,222
	3 Uluborlu	4,000	1,300	—	—	—	—	5,300
	4 Kara Aghach	34,000	—	—	—	—	—	34,000
	5 Yalovach	22,237	—	—	—	—	—	22,237
		174,337	10,096	600	—	20	3	185,056
Nigde.	1 Hamid (Maden)	15,600	1,200	—	—	—	—	16,800
	2 Bor	8,800	3,189	—	—	—	—	11,989
	3 Nigde	46,300	32,203	753	—	41	38	79,335
	4 Ak Serai	73,000	1,356	—	—	—	—	74,356
	5 Arebsun	5,600	2,350	—	—	—	—	7,950
	6 Nevshehir	14,540	10,790	—	—	—	—	25,330
	7 Ürgüb	10,300	4,430	—	—	—	—	14,930
		74,140	55,518	753	41	—	38	230,490
Total of the Vilayet of Konia		988,723	87,021	9,729	15,000	605	471	1,101,549

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF KASTAMUNI. 1912.

Sanjaks.		*Kazas.*	*Turks.*	*Greeks.*	*Armenians.*	*Other Nationalities.*	*Total.*
Kastamuni.	1	Ineboli	64,368	3,685	200	8	68,211
	2	Jidde	40,000	284	6	—	40,290
	3	Dadai	43,682	40	192	—	43,914
	4	Kastamuni	21,596	1,900	429	—	23,925
	5	Arach	35,950	50	—	—	36,000
	6	Zafranboli	53,962	4,137	—	—	58,099
	7	Tashköprü	41,129	125	484	—	41,738
	8	Tosia	33,650	612	113	—	34,375
			334,337	10,783	1,424	8	346,552
Boli.	1	Bartin	51,572	712	—	—	52,284
	2	Eregli	38,583	3,845	—	—	42,428
	3	Boli	50,815	450	396	—	51,661
	4	Gönik	18,553	—	—	—	18,553
	5	Gerede	45,036	—	39	—	45,075
	6	Düzje	33,529	—	72	—	33,601
	7	Mudurnu	30,461	—	—	—	30,461
	8	Hamidie	50,675	—	—	—	50,675
			319,224	5,007	507	—	324,738
Kianghry.	1	Changhry	88,719	1,143	345	—	90,207
	2	Iskelib	20,215	—	574	—	20,789
	3	Cherkesh	56,473	—	41	—	56,514
			165,407	1,143	960	—	167,510
Sinope.	1	Sinope	46,291	5,689	314	—	52,294
	2	Boyabad	40,300	986	—	2,079	43,365
	3	Ayanjyk	32,876	1,311	—	—	34,187
			119,467	7,986	314	2,079	129,846
Total of the Vilayet of Kastamuni			938,435	24,919	3,205	2,087	968,646

STATISTICS OF THE POPULATION, DIVIDED ACCORDING TO NATIONALITIES, OF THE VILAYET OF ADANA.

Turks.	*Greeks.*	*Armenians.*	*Jews.*	*Other Nationalities.*	*Total.*
142,000	90,208	83,000	—	108,292	423,500

TOTALS

	Turks.	*Greeks.*	*Armenians.*	*Jews.*	*Others.*	*Total.*
Skutari .	124,281	74,457	35,360	5,965	18,497	258,560
Izmid .	116,949	73,134	48,635	2,500	1,115	242,333
Dardanelles	138,902	32,830	2,336	3,340	81	177,489
Sivas . .	839,514	99,376	170,635	—	—	1,109,525
Brussa .	1,192,749	278,421	89,966	2,854	6,134	1,570,124
Aïdin .	940,843	622,810	16,419	21,781	57,676	1,659,529
Angora .	668,400	45,873	98,798	478	8,749	822,298
Trebizond .	957,866	353,533	50,624	—	—	1,362,023
Konia .	988,723	87,021	9,729	605	15,471	1,101,549
Kastamuni	938,435	24,919	3,205	—	2,087	968,646
Adana .	142,000	90,208	83,000	—	108,292	423,500
Totals .	7,048,662	1,782,582	608,707	37,523	218,102	9,695,506

C.

POPULATION OF THE VILAYETS AND INDEPENDENT SANJAKS OF ASIA MINOR BY KAZAS ON MARCH 14, 1914

TURKISH OFFICIAL ESTIMATE ISSUED BY THE OTTOMAN GOVERNMENT, APRIL 14, 1919.

Vilayets, Sanjaks, and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Adana	71,617	3,175	16,850	1,575	93,217
Kaza of Jihan . .	16,068	110	348	12	16,538
„ Kara Issaly .	27,771	—	20	—	27,791
„ Yimurtalyk .	6,694	60	520	—	7,274
Merkez Kaza of Kozan	20,763	—	4,067	—	24,830
Kaza of Hajin . .	16,972	3	13,550	—	30,525
„ Feke . .	13,170	1,789	2,940	—	17,989
„ Kars . .	16,989	16	1,207	—	18,212
Merkez Kaza of Jebel Bereket . .	13,193	16	759	1	13,969
Kaza of Dört Yol .	15,495	280	7,046	24	22,845
„ Islahie . .	10,927	—	500	—	11,427
„ Baghche Bulanyk	14,643	—	4,291	—	18,934
„ Khassa .	8,810	34	1,324	169	10,337
Merkez Kaza of Mersina	27,844	2,346	900	344	31,434
Kaza of Tarsus .	60,947	1,055	3,364	335	65,701
Total of the Vilayet of Adana . .	341,903	8,974	57,686	2,460	411,023

Vilayets, Sanjaks, and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Aïdin (Smyrna) . .	100,356	73,636	11,127	25,854	211,013
Kaza of Bergama .	56,812	16,841	968	710	75,331
„ Menemen .	21,433	8,058	146	476	30,113
„ Vurla . .	9,361	24,711	42	424	34,538
„ Cheshme .	4,539	39,073	—	199	43,811
„ Focha .	7,427	15,670	—	83	23,180
„ Kush Adasy	11,438	9,220	144	157	20,929
„ Sivri Hissar .	7,816	2,641	14	4	10,475
„ Tire . .	37,514	3,228	24	1,970	42,736
„ Bayndyr .	22,622	3,655	275	10	26,561
„ Ödemish .	7,069	6,104	1,552	12	78,737
„ Nif . .	19,658	4,876	12	15	24,561
„ Karaburun .	8,838	9,934	—	—	18,772
Merkez Kaza of Manisa	86,565	22,471	2,875	2,165	114,076
Kaza of Kassaba .	32,938	3,573	447	983	37,941
„ Salykhly .	28,836	1,693	91	242	30,862
„ Alashehir .	33,467	3,359	17	1	36,844
„ Kula . .	32,022	3,228	—	—	35,250
„ Eshme .	23,415	33	—	7	23,455
„ Demirji .	34,440	141	9	—	34,590
„ Gördiz .	36,858	988	—	—	37,846
„ Kyrkaghach.	18,076	3,388	919	30	22,413
„ Soma . .	20,360	2,094	10	11	22,475
„ Ak Hissar .	31,359	6,358	514	471	38,702
Merkez Kaza of Aïdin .	82,163	9,702	304	5,326	97,495
Kaza of Nazly . .	50,719	2,699	543	493	54,454
„ Bozdoghan .	33,298	406	11	4	33,719
„ Sokia . .	20,028	16,720	133	95	36,976
„ China . .	32,376	651	2	30	33,059
„ Karaja Su .	18,765	221	—	—	19,086
Merkez Kaza of Denizli	41,788	2,409	548	35	44,780
Kaza of Davas . .	57,271	—	4	—	57,275
„ Chal . .	52,585	177	15	—	52,777
„ Buladan .	30,911	24	14	—	30,949
„ Serai Köi .	21,068	1,041	37	5	22,151
„ Kara Aghach	50,776	34	—	—	50,810
Total of the Vilayet of Aïdin . .	1,249,067	299,097	20,766	39,812	1,608,742

Vilayets, Sanjaks, and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Angora	69,066	3,327	11,246	1,026	84,665
Kaza of Ayash . .	24,986	—	—	—	24,986
,, Kassaba-i-Bala	31,546	48	11	8	31,613
,, Beybazar .	23,931	26	—	—	23,957
,, Haimane .	34,352	193	138	—	34,683
,, Kalejik . .	44,064	—	830	—	44,894
,, Nallykhan .	16,581	4	1,103	64	17,752
,, Yaban Abad	54,957	3	9	—	54,969
Merkez Kaza of Chorum	83,150	555	1,231	—	84,936
Kaza of Iskelib .	55,016	15	43	113	55,187
,, Sungurlu .	40,501	816	1,936	699	43,952
,, Osmanjyk .	31,824	50	68	—	31,942
,, Mejid Özü .	34,134	834	485	—	35,453
Merkez Kaza of Kyrshehir	71,647	412	1,734	—	73,793
Kaza of Mejur . .	8,643	—	—	—	8,643
,, Keskin .	48,349	3,039	2,071	—	53,459
,, Mejidie .	21,401	—	52	—	21,453
,, Avanos .	25,499	—	—	—	25,499
Merkez Kaza of Yozgad	77,187	2,281	13,969	—	93,437
Kaza of Ak Dagh Maden	37,081	7,892	3,361	425	48,759
,, Boghazlayan	43,370	725	15,670	—	59,785
Total of the Vilayet of Angora . .	877,285	20,240	53,957	2,335	953,817
Merkez Kaza of Brussa .	111,301	74,048	7,402	5,026	147,777
Kaza of Gemlik .	16,373	8,568	3,348	—	28,289
,, Orkhan Ghazi	11,884	—	28,883	—	34,767
,, Karaja Bey .	25,763	9,921	1,036	574	37,294
,, Mudania .	7,677	17,389	120	53	25,239
,, Kirmasti .	56,599	1,381	1,016	184	59,180
,, Orkhan Ili .	47,140	44	6	—	47,190
Merkez Kaza of Ertoghrul Bilejik . .	59,508	9,877	8,436	52	77,873
Kaza of Sügüt .	55,223	1,982	7,958	—	65,163
,, Inegöl .	56,238	34	7,326	106	63,704
,, Yenishehir .	26,408	1,683	1,660	—	29,751
Total of the Vilayet of Brussa . .	474,114	74,927	61,191	5,995	616,227

Vilayets, Sanjaks, and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Kastamuni	67,467	2,468	2,153	—	72,088
Kaza of Ineboli	80,431	3,289	167	—	83,887
„ Zafranboli	59,866	3,818	—	—	63,684
„ Tashköprü	50,721	65	1,477	—	52,263
„ Dadai	47,536	46	310	—	47,892
„ Jidde	41,845	388	3	—	42,236
„ Arach	41,642	53	10	—	41,705
„ Tosia	29,489	680	114	—	30,283
Merkez Kaza of Changhry	94,385	1,234	472	—	96,091
Kaza of Cherkesh	63,519	103	10	—	63,632
Merkez Kaza of Sinob	28,290	4,595	675	8	33,568
Kaza of Boyabad	59,324	194	3,074	—	62,592
„ Ayanjyk	42,556	1,917	3	—	44,476
„ Gerze	30,231	2,108	491	—	32,830
Total of the Vilayet of Kastamuni	737,302	20,958	8,959	8	767,227
Merkez Kaza of Konia	101,880	6,619	3,435	4	111,938
Kaza of Ak Shehir	57,234	2,266	4,890	213	64,603
„ Beyshehir	41,596	122	33	—	41,751
„ Seidishehir	22,946	26	129	—	23,101
„ Ilghin	31,932	705	103	—	32,740
„ Bozkyr	55,115	272	—	—	55,387
„ Karaman	55,237	567	1,245	—	57,049
„ Eregli	29,102	567	888	4	30,561
„ Sultanie (Karapunar)	20,640	—	—	—	20,640
„ Koch Hissar	35,177	209	14	—	35,400
„ Ermenek	29,424	1	2	—	29,427
„ Said Ili	39,979	—	4	—	39,983
Merkez Kaza of Buldur	54,032	2,783	1,324	—	58,139
Kaza of Tefeni	27,671	86	24	—	27,781
Merkez Kaza of Isbarta	46,698	6,648	1,119	—	54,465
Kaza of Uluborlu	19,367	1,278	5	—	20,650
„ Egerdir	27,020	2,982	—	—	30,002
„ Kara Aghach	25,743	10	—	—	25,753
„ Yalovach	29,919	9	10	—	29,938
Total of the Vilayet of Konia	750,712	25,150	13,225	221	789,308

Vilayets, Sanjaks, and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Sivas .	54,819	728	26,076	—	81,623
Kaza of Tunus. .	40,868	—	13,694	—	54,562
„ Hafyk. .	40,076	21	11,376	—	51,473
„ Derende . .	26,518	—	2,862	—	29,380
„ Divrik .	30,630	—	8,354	—	38,984
„ Azizie . .	50,344	8	1,102	—	51,454
„ Kangal .	29,212	—	3,111	—	32,323
„ Kochkyry .	47,203	6,112	6,056	—	59,371
„ Görün. .	15,640	—	8,905	—	24,545
„ Yildiz. .	39,239	569	1,379	—	41,187
Merkez Kaza of Amasia	53,123	2,679	9,979	217	65,998
Kaza of Khavsa .	17,475	7,869	335	—	25,679
„ Vezir Köprü	41,853	4,755	1,359	283	48,250
„ Gümüsh Haji Köi	24,957	3,660	3,722	—	32,339
„ Merzifun .	25,370	1,067	9,726	710	36,873
„ Ladik . .	15,861	4,920	343	—	21,124
Merkez Kaza of Tokat .	90,125	3,997	12,925	709	107,756
Kaza of Erbaa . .	50,895	7,922	3,704	169	62,690
„ Zile . .	69,328	154	2,921	268	72,671
„ Niksar. .	22,843	4,815	3,183	24	30,865
„ Reshadie .	25,660	811	—	—	26,471
Merkez Kaza of Kara Hissar Sharki .	26,379	16,383	8,494	330	51,586
Kaza of Alujera .	30,737	692	30	—	31,459
„ Messudie .	26,510	5,264	664	—	32,438
„ Sushehir .	22,871	2,040	11,337	—	36,248
„ Koili Hissar.	21,199	858	37	—	22,094
Total of the Vilayet of Sivas . . .	939,735	75,324	151,674	2,710	1,169,443
Merkez Kaza of Trebizond	64,726	23,806	16,318	8	104,858
Kaza of Ordu . .	111,421	18,505	13,565	—	143,491
„ Of . . .	75,050	1,819	—	—	76,869
„ Akche Abad.	56,401	6,561	3,517	—	66,479
„ Tireboli . .	48,999	10,530	868	—	60,397
„ Sürmene .	57,698	9,762	323	—	67,783
„ Kiresun . .	92,301	24,138	2,275	—	118,714
„ Gerele . .	42,823	1,648	312	—	44,783
„ Vakf-i-Kebir	28,484	13	51	—	28,548
„ Machka .	17,950	19,575	258	—	37,783
Merkez Kaza of Lazistan	122,055	1,507	5	—	123,560
Kaza of Atina . .	50,297	171	28	—	50,496
„ Hoppa .	38,156	44	2	—	38,202
Merkez Kaza of Gümüsh Khane . .	29,639	9,179	1,817	—	40,635
Kaza of Torul . .	29,686	30,547	24	—	60,257
„ Sheiran .	22,312	3,155	392	—	25,859
„ Kelkit .	33,130	614	482	—	34,226
Total of the Vilayet of Trebizond . .	921,128	161,574	40,237	8	1,122,947

Vilayets, Sanjaks, and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Adalia .	70,165	7,837	141	174	78,317
Kaza of Elmaly .	25,081	325	484	336	26,226
,, Alaya . .	32,390	1,877	—	47	34,314
,, Akseki .	34,384	65	—	—	34,449
,, Kash . .	19,210	1,028	5	—	20,243
,, Menavgat .	19,411	56	—	—	19,467
,, Kurkude Ili .	23,534	—	—	—	23,534
,, Phenike .	11,587	1,197	—	352	13,136
Total of the Sanjak of Adalia . .	235,762	12,385	630	909	249,686
Merkez Kaza of Boli .	53,594	14	1,227	—	54,835
Kaza of Eregli . .	42,059	1,389	—	—	43,448
,, Bartin .	64,395	1,104	401	3	65,903
,, Gerede .	50,423	45	19	—	50,487
,, Gönik .	19,075	2	—	99	19,176
,, Düzje . .	58,041	1,013	392	753	60,199
,, Divrik .	53,336	404	670	—	54,410
,, Mudurnu .	29,818	—	—	364	30,182
,, Zunguldak .	28,540	1,180	263	25	30,008
Total of the Sanjak of Boli . . .	399,281	5,151	2,972	1,244	408,648
Merkez Kaza of Janyk .	44,992	54,709	5,315	28	105,044
Kaza of Unie . .	58,351	5,251	5,861	9	69,472
,, Bafra . .	48,944	30,838	1,735	—	81,517
,, Fatza . .	35,678	3,026	1,635	—	40,339
,, Charshembe.	54,353	3,948	11,429	—	69,730
,, Terme. .	23,632	967	2,601	—	27,200
Total of the Sanjak of Janyk . . .	265,950	98,739	28,576	37	393,302
Merkez Kaza of Eskishehir	83,883	2,613	4,510	194	91,200
Kaza of Sivri Hissar .	33,328	—	4,185	206	37,719
,, Mikhalyjyk .	23,367	—	112	328	23,807
Total of the Sanjak of Eskishehir . .	140,578	2,613	8,807	728	152,726

Sanjaks and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Izmid .	40,403	5,226	25,399	321	71,349
Kaza of Adabazar .	76,864	7,957	17,117	113	102,051
,, Karamursal.	14,850	6,047	2,635	15	23,547
,, Kandra .	40,495	1,804	641	4	42,944
,, Geive . .	32,508	7,108	8,567	4	48,187
,, Yalova .	7,954	10,274	3,304	—	21,532
,, Iznik . .	13,785	1,632	126	—	15,543
Total of the Sanjak of Izmid . . .	226,859	40,048	57,789	457	325,153
Merkez Kaza of Ichili (Selefke) . .	34,628	1,210	334	—	36,172
Kaza of Anamur .	31,768	725	—	9	32,502
,, Gülnar .	20,668	463	7	74	21,212
,, Mut . .	14,970	109	—	229	15,308
Total of the Sanjak of Ichili . . .	102,034	2,507	341	312	105,194
Merkez Kaza of Kaisari	101,924	19,662	33,232	—	154,818
Kaza of Develi. .	30,948	2,085	16,095	—	49,128
,, Inje Su .	14,559	3,773	—	—	18,332
,, Bunyan Hamid	36,861	1,070	2,865	—	40,796
Total of the Sanjak of Kaisari . .	184,292	26,590	52,192	—	263,074
Merkez Kaza of Kale Sultanie (Dardanelles)	13,596	4,367	1,328	2,961	22,252
Kaza of Ezine . .	15,801	486	700	338	17,325
,, Aivajyk .	17,089	—	5	1	17,095
,, Bairamich .	20,614	290	56	270	21,230
,, Bigha . .	65,242	2,243	409	103	67,997
,, Lapsaki .	17,561	1,164	43	1,148	19,916
Total of the Sanjak of Kale Sultanie .	149,903	8,550	2,541	4,821	165,815

Sanjaks and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Kara Hissar Sahib (Afium Kara Hissar)	97,547	59	7,174	7	104,787
Kaza of Keikuler-Dinar	37,496	327	65	74	37,962
„ Bolavadyn	39,618	3	8	—	39,629
„ Sandykly	37,165	7	33	—	37,205
„ Azizie	44,097	151	123	—	44,371
„ Chivril	21,736	85	45	—	21,866
Total of the Sanjak of Afium Kara Hissar	277,659	632	7,448	81	285,820
Merkez Kaza of Karasi (Balikesr)	156,092	2,655	2,966	31	161,744
Kaza of Edremid	30,846	9,699	41	40	40,626
„ Erdek	15,232	31,035	1,094	305	47,666
„ Aivalyk	454	31,440	—	—	31,894
„ Balia	33,680	3,266	298	3,650	40,894
„ Panderma	41,146	11,507	4,189	2,583	59,425
„ Burhanie	20,280	4,514	43	14	24,851
„ Sindirgi	27,095	1,130	20	2	28,247
„ Gönen	34,979	2,251	53	340	37,623
Total of the Sanjak of Karasi	359,804	97,497	8,704	6,965	472,970
Merkez Kaza of Kutahia	136,164	5,587	3,449	243	145,443
Kaza of Gediz	38,256	—	—	—	38,256
„ Ushak	88,626	2,957	1,099	—	92,682
„ Simav	40,302	211	—	—	40,513
Total of the Sanjak of Kutahia	303,348	8,755	4,548	243	316,894
Merkez Kaza of Menteshe	61,576	2,008	4	1	63,589
Kaza of Mermeris	15,040	2,082	—	73	17,195
„ Köijigez	23,716	727	5	524	24,972
„ Fethie	36,734	7,394	—	217	44,345
„ Budrum	15,468	4,042	3	203	19,716
„ Milas	36,382	3,670	—	1,005	41,057
Total of the Sanjak of Menteshe	188,916	19,923	12	2,023	210,874
Merkez Kaza of Nigde	52,754	26,156	1,286	—	80,196
Kaza of Nevshehir	38,146	10,935	1,202	—	50,283
„ Ürgüb	26,671	7,953	196	—	34,820
„ Ak Serai	59,010	4,551	2,091	—	65,652
„ Bor	22,924	1,442	803	—	25,169
„ Ulu Kyshla	11,807	2,475	115	—	14,397
„ Arebsun	15,788	4,800	12	—	20,600
Total of the Sanjak of Nigde	227,100	58,312	5,705	—	291,117

TOTALS

	Moslems.	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Vilayet of Adana .	341,903	8,974	57,686	2,460	411,023
,, Aïdin . .	1,249,067	299,097	20,766	39,812	1,608,742
,, Angora .	877,285	20,240	53,957	2,335	953,817
,, Brussa .	474,114	74,927	61,191	5,995	616,227
,, Kastamuni .	737,302	20,958	8,959	8	767,227
,, Konia . .	750,712	25,150	13,225	221	789,308
,, Sivas . .	939,735	75,324	151,674	2,710	1,169,443
,, Trebizond .	921,128	161,574	40,237	8	1,122,947
Sanjak of Adalia . .	235,762	12,385	630	909	249,686
,, Boli . .	399,281	5,151	2,972	1,244	408,648
,, Janyk . .	265,950	98,739	28,576	37	393,302
,, Eskishehir .	140,578	2,613	8,807	728	152,726
,, Izmid . .	226,859	40,048	57,789	457	325,153
,, Ichili . .	102,034	2,507	341	312	105,194
,, Kaisari .	184,292	26,590	52,192	0	263,074
,, Kale Sultanie	149,903	8,550	2,541	4,821	165,815
,, Kara Hissar Sahib .	277,659	632	7,448	81	285,820
,, Karasi . .	359,804	97,497	8,704	6,965	472,970
,, Kutahia .	303,348	8,755	4,548	243	316,894
,, Menteshe .	188,916	19,923	12	2,023	210,874
,, Nigde . .	227,100	58,312	5,705	0	291,117
Total . . .	9,352,732	1,067,946	587,960	71,369	11,080,007

ADDENDUM

Turkish Official Statistics, 1910.

	Turks.	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Constantinople (Asiatic side)	135,681	70,906	30,465	21,932	258,984

Allowing for the normal increase on this figure, the total population of Anatolia, according to official Turkish statistics, is about 11,350,000.

D.

TURKISH OFFICIAL ESTIMATE (1914) OF THE POPULATION OF MAMURET UL-AZIZ, ERZINJAN, AND MARASH

Vilayets, Sanjaks, and Kazas.	*Moslems.*	*Greeks.*	*Armenians.*	*Other Elements.*	*Total.*
Merkez Kaza of Mezere	56,365	23	29,048	726	86,162
Kaza of Kharput	22,541	—	9,172	836	32,549
„ Eghin	32,610	636	9,888	36	43,170
„ Arabkyr	24,194	1	10,091	—	34,286
„ Keban Maden	23,944	37	377	—	24,358
„ Peturke	34,166	—	679	777	35,622
Merkez Kaza of Malatia	57,726	—	8,214	203	66,143
Kaza of Besne	42,282	—	1,970	—	44,252
„ Husni-Mansur	34,154	—	3,384	411	37,949
„ Kiakhta	16,434	—	750	54	17,238
„ Akche Dagh	35,987	—	466	—	36,453
Merkez Kaza of Khozat (Dersim)	11,874	—	1,151	—	13,025
Kaza of Chemish Gezek	16,181	267	3,987	—	20,435
„ Charshanjak	12,157	—	7,105	—	19,262
„ Ovajyk	4,165	—	10	—	4,175
„ Nazimie	7,276	7	89	—	7,372
„ Masagurd	14,323	—	1,483	—	15,806
Total of the Vilayet of Mamuret ul-Aziz	446,379	971	87,864	3,013	538,227
Merkez Kaza of Erzinjan	53,898	275	16,291	54	70,518
Kaza of Polmur	11,755	—	511	—	12,266
„ Refayet	23,307	1,394	1,270	—	25,971
„ Kuru Chai	11,466	—	2,649	—	14,115
„ Kemakh	20,742	560	4,741	—	26,043
Total of the Sanjak of Erzinjan	121,168	2,229	25,462	54	148,913
Merkez Kaza of Marash	50,356	34	22,040	1,443	73,873
Kaza of Bazarjyk	23,868	—	37	—	23,905
„ Albistan	47,595	—	2,017	—	49,612
„ Zeitun	8,069	—	10,718	—	18,787
„ Göksün	22,757	—	3,621	—	26,378
Total of the Sanjak of Marash	152,645	34	38,433	1,443	192,555

APPENDIX 3

RECKONING OF TIME

Time

Sunset, or rather seven minutes after sunset, is always 12 o'clock. Twelve hours after sunset is again 12 o'clock. Sunset is considered a fixed reckoning point for each day. In a sparsely inhabited country where distance is measured by time (see below) this method of reckoning has a certain advantage. If, on a journey, our next stage is 10 hours distant, and we do not wish to be benighted, we know at once that travelling at the normal rate, whatever the season, we cannot start later than 2 Eastern time. $2+10=12$, i. e. sunset.

'The column only arrived at 1.30 at night' means, of course, independent of season, $1\frac{1}{2}$ hrs. after sunset.

At the March and September equinoxes, 6 o'clock (Turkish) is at noon. At midsummer, in Constantinople, noon is about 4·15 (Turkish) i. e. $7\frac{3}{4}$ hours remain till sunset. In midwinter, noon is about 7.30 (Turkish), i. e. $4\frac{1}{2}$ hrs. daylight remain.

The Turkish week begins on our Friday and the names of the days are Juma, Juma ertesi, Pazar, Pazar ertesi, Saly, Charshembe, Pershembe.

A point continually leading to confusion with Europeans is that the Turks, when they say Monday evening or night, mean the evening or night between Sunday and Monday (cf. our Christmas Eve, Michaelmas Eve, &c.). 'Monday evening', in the English sense, is expressed by saying 'The evening of the day of Monday'.

The Calendar

Two years in use are to be distinguished :

(i) The Hejira year. This is the year of the Mohammedan

Era, which is calculated from July 15, A.D. 622, the date of Mohammed's flight from Mecca.

The Hejira year is lunar, consisting of 12 months named Moharrem, Sefer, Rebi ul-Evvel, Reib ul-Akhyr, Jemazy ul-Evvel, Jemazy ul-Akhyr, Rejeb, Chaban, Ramazan, Shevval, Zilkade, and Zilhijeh. Normally every odd month (1st, 3rd, &c.) has 30 days, and every even one 29, i. e. 354 days = 1 year. This implies that the round of the seasons would be made every 33 years. For convenience it was arranged that there should be 19 years of 354 days and 11 years of 355 days in a cycle of 30 years, the leap years being the 2nd, 5th, 7th, 10th, 13th, 16th, 18th, 21st, 24th, 26th, and 29th.

(ii) The financial year. This is an official year used in the Turkish Empire for financial and other administrative purposes. It was introduced in 1789, and was intended to correspond with the Orthodox year, which is used in Russia and in other countries where the Greek Orthodox Church has been established. It begins on March 1 of the Orthodox year, or on March 14 of our year.

The beginning of the Turkish financial year 1335 = March 14, 1919. The names of the months are Kianuni Sani, Shubat, Mart, Nisan, Maïs, Haziran, Temus, Aghostos, Eilul, Teshrini Evel, Teshrini Sani, Kianuni Evel.

APPENDIX 4

WEIGHTS AND MEASURES

Since 1881 the use of the French decimal system has, according to law, been obligatory in all parts of the Empire ; but, except in the Government offices, the law has never been enforced and the old weights and measures are still in general use. They are :

Weights

1 kerat = 3·093 grains.
(16 kerats make 1 dram).

1½	drams	,,	1 miskal = 74·245 grains (used for *drugs, attar of roses, pearls,* &c.).
400	drams	,,	1 oke = 2·828 lb.
44	okes	,,	1 kantar.
4	kantars	,,	1 cheki.
18	kantars	,,	1 tonnellata = 1 ton.

Silk is sold in tefes of 210 drams each ; *liquids* are sold by weight.

Measures

Grain is sold by the kile (1·018 bushels) of 8 kutis, at Constantinople. In the provinces the capacity of the kile varies largely.

Cotton stuffs, carpets, &c., are sold by the endaze = 25·91 inches ; 2 jeras = 1 rup, 8 rups = 1 endaze.

Silks and *woollen stuffs* are sold by the arshin (pik) = 26·772 inches, which is also divided into 8 rups and 16 jeras.

Land is measured by the dönum = 1,099·37 square yards ; 24 parmaks = 1 zira or arshin (29·84 inches) ; 1,600 square ziras = 1 dönum. An English acre = 4·4 dönums.

In 1889 the metric system of weights was made obligatory for cereals; and in 1892 it became universally obligatory. The old names are used under the new system, causing much confusion; thus the oke = 1 kilogramme, the batman = 10 kilos, the kantar = 100 kilos and the cheki = 1,000 kilos; the kile = 1 hectolitre, the arshin = 1 metre, the farsang = 10 kilometres.

APPENDIX 5

CURRENCY

The Turkish currency is at present in an unstable condition, as the result of measures the full effect of which cannot be foreseen. To obtain a correct idea of present values, it is necessary to take into account the pre-war standards, the causes which threw these standards into intolerable confusion, and the efforts which the Turkish Government has made to regulate the currency.

The unit is the Turkish pound, £T or T£, called *lira*, which before the war had the nominal value of 100 (gold) piastres, and the value in practice of 108 (silver) piastres. The 'gold piastre' was a sub-unit of value, and had no existence as a coin. In practice, the lira was worth 108 silver *grush*, called by Europeans 'piastres'. Thus an article valued at £T1 could be paid for either with a gold pound, or with a mixture of gold and silver, or of silver and nickel, aggregating 108 piastres. The buyer tendered, say, £T$1\frac{1}{2}$, 2 mejidie, 2 cherek, and 4 grush.

There are gold coins of the value of $\frac{1}{4}$, $\frac{1}{2}$, 1, $2\frac{1}{2}$, and 5 Turkish pounds, silver coins of 1, 2, 5, 10, and 20 piastres, nickel coins (introduced in 1911) of 5, 10, 20, and 40 para, and, until 1911, there were bronze coins of 5, 10, 20, 50, and 100 para, the last four called *metallyks*. The two last coins have been withdrawn from circulation, but are sometimes tendered. The others are still current, but, apart from the 10-para piece, are scarce.

The following is a list of the Turkish names for the common coins, with their pre-war values in English money :

	Coin.	*Turkish Name.*	*Approximate pre-war value in English money.*
			s. *d.*
Gold	£T1	lira	18 2
	£T½	yarym lira (' half lira ')	9 1
	£T¼	cherek lira (' quarter lira ')	4 6½
Silver	20 piastres	mejidie	3 4
	10 ,,	yarym mejidie	1 8
	5 ,,	cherek, beshlik	0 10
	2 ,,	ikilik	0 4
	1 piastre	grush, kyrk para (' forty paras ')	0 2
Nickel	40-para piece	kyrk para	0 2
	20 ,, ,,	yirmi para, yirmilik	0 1
	10 ,, ,,	on para, onlyk	0 ½
	5 ,, ,,	besh para	0 ¼
Bronze	100-para piece, scarce	yüzlik	0 2½
	50 ,, ,,	elli para	0 1¼
	20 ,, ,,	yirmilik	0 1
	10 ,, ,,	onlyk	0 ½
	5 ,, ,,	besh para	0 ¼

The old bronze *altylyk* (nominally 6 piastres) and *beshlik* (nominally 5 piastres) are rarely met with.

Before the recent reform, the following causes led to confusion of the currency :

(1) Small change has always been at a premium, owing to the insufficient amount of it in circulation, and this led to the profitable business of money-changing carried on by Jewish *sarrafs*. They charged ½ piastre or 1 piastre for changing a pound, according to the nature of the change.

(2) The *mejidie* had different ' conventional ' values in different parts of the Empire. As against 20 piastres in Constantinople, it was worth, for example, 47 piastres in Jerusalem, and 54 piastres in the Hejaz. Even in the same place, it had different values in different branches of trade : thus in Smyrna it was at one time worth 25 piastres in buying coffee, 29 piastres in buying opium.

(3) The Government accepted the mejidie at 19 piastres. To buy 20 one-piastre stamps it was necessary to pay 1 mejidie and 1 piastre.

(4) Before the War, five-pound notes were issued by the Ottoman Bank and circulated at their face value. Subsequently, one-pound notes have been introduced, with unfortunate results. Turkey has borrowed large sums in Germany, and issued this money in the form of notes, redeemable in German gold six months or a year after the end of the war. The average Turk has little confidence in his Government, and he has always disliked paper money. The continuous increase in the number of notes issued has increased his distrust, the paper money has depreciated in value, and gold and silver are extensively hoarded by the population. In April 1916, Turkish pound notes were worth 96 piastres, and in 1917 it was reported that a gold pound could buy 5 or 6 pound notes. Small change was at a ransom, and traders refused to give change for even relatively small coins.

To meet this situation, the Turkish Government has introduced a uniform standard. The old double standard has been abolished, local variations have been declared illegal, and the Turkish pound now runs at 100 silver piastres and the mejidie at 20 piastres throughout the Empire. The Government now accepts silver at its face value. Penalties are imposed for speculating on variations in the currency, or for trying to introduce variations, as by withholding small change. Many causes will operate against the success of this bold measure as a remedy for the present depreciation, but it is a long-needed reform, and will probably survive the war.

APPENDIX 6

TRADE STATISTICS

According to the Custom House statistics of 1910, the last normal trade year, the imports of Anatolia (including Gallipoli, Rodosto, Mitylene, Khios, and Rhodes) amounted to £10,012,000 and the exports to £11,761,000, roughly.

According to the same statistics the imports and exports of all the Turkish possessions amounted in 1910 to £38,687,000 and £20,072,000 respectively. The Anatolian trade, therefore, amounts to some 25 per cent. of the whole as regards imports and 50 per cent. of the whole as regards exports.

The following are the Customs House statistics of the value of the trade handled at the chief trade outlets in 1910. It must be noted (*a*) that they include the trade of Rodosto, Mitylene, Khios, and Rhodes, which are not in Anatolia; (*b*) that the figure for Alexandretta includes trade from northern Syria.

IMPORTS

	£
Haidar Pasha and Marmara Ports (Izmid, Gemlik, Mudania, Panderma, Dardanelles, Rodosto, Gallipoli, and Zunguldak in the Black Sea)	1,280,000
Smyrna	4,086,000
Aivalyk, Mitylene, Khios, and Rhodes	781,000
Alexandretta, with Mersina and Adalia	1,483,000
Trebizond	868,000
Kerasund, Samsun, Ineboli, and Erzerum	1,514,000
Total	10,012,000

EXPORTS

	£
Haidar Pasha and Marmara Ports (Izmid, Gemlik, Mudania, Panderma, Dardanelles, Rodosto, Gallipoli, and Zunguldak in the Black Sea)	2,316,000
Smyrna	4,444,000
Aivalyk, Mitylene, Khios, and Rhodes	1,876,000
Alexandretta, with Mersina and Adalia	1,471,000
Trebizond	168,000
Kerasund, Samsun, Ineboli, and Erzerum	1,486,000
Total	11,761,000

It is not possible to give in a complete table the commercial interests of the various countries interested, but the following figures regarding the whole of Asiatic Turkey give some indication of the extent of British interests, which form about 57 per cent. of the total British export trade to all Turkish possessions, and 50 per cent. of the world's export trade to Asiatic Turkey.

	£
Produce and manufactures of the United Kingdom to Asiatic Turkey, 1910	5,071,000
Produce and manufactures of the United Kingdom to all Turkish Dominions	8,858,000

Some £72,000 worth of foreign and colonial merchandise was shipped from Great Britain to Asiatic Turkey, only about 0·7 per cent. of the total Anatolian import trade.

The following tables for the year 1900-1 give some idea of the proportion of British interests in Asia Minor.

Port.	*Export.*		*Import.*	
	To United Kingdom.	*Total.*	*From United Kingdom.*	*Total.*
Smyrna	1,973,000	3,807,000	864,000	2,554,000
Alexandretta	69,000	773,000	450,000	985,000
Trebizond	128,000	733,000	273,000	935,000

The following tables may be of interest.

Return showing value of imports into Turkey from the principal countries.

Country.	*Average 5 years,* 1896–1900.	1903.	1910.
United Kingdom	5,701,000	5,701,000	8,858,000
Austria-Hungary	2,430,000	3,256,000	5,365,000
Germany	1,629,000	2,511,000	5,245,000
Italy	1,344,000	2,268,000	4,760,000
France	1,887,000	1,832,000	2,920,000
Russia	1,521,000	—	—
Belgium	—	—	1,430,000

As regards Anatolia, exports from Britain are principally cotton yarns and piece goods, woollens, and coal.

In 1904 German exports to Turkey in Asia consisted principally of cottons, iron and iron ware, and woollens. In 1903 of the total imports from Germany into all Turkish

possessions, amounting to £2,511,000, Turkey in Asia received goods to the value of £731,000.

Of these goods the chief were as follows: ironware, £135,000; cotton goods, £134,000; woollen goods, £105,000.

Austro-Hungarian exports to the whole of the Ottoman Dominions in 1904 were chiefly sugar; cotton yarns and piece goods; clothes, underlinen, and millinery; paper; leather and leather goods; wooden and bone goods; iron and iron-ware.

In 1904 the chief exports from Italy to Turkey in Asia were cotton goods, yarns, textiles, and silk goods. The value of the Italian textile exports to Turkey in Asia was in 1902 £66,800.

American sales were increasing about 1904, especially in Asiatic Turkey, having risen from £5,000 in 1902 to £41,000 in 1903. The American goods imported were principally sewing machines and 'oleo' or beef fat. Lesser quantities of cotton goods, 'cabot' cloth, ploughs, reaping machines and tools, boats, goloshes, and kerosene were also imported.

The greater part of the Portland cement came from France and a considerable amount of iron from Belgium.

In 1905 British India exported to Asiatic Turkey £538,600 worth of goods of which £285,000 went to Asiatic Ports in the Levant and Black Sea.

The following table gives the weight of Indian produce shipped to Alexandretta via Port Said, Alexandria, Marseilles, and Trieste, during the years 1908–13.

Year.	1908.	1909.	1910.	1911.	1912.	1913.
Weight in tons	2,230	3,048	2,899	1,680	1,979	1,369

In 1910 the commodities exported to Alexandretta from India were as follows:

Article.	*Tons.*
Rice	650
Tea	9
Buffalo hides	244
Cotton yarns	1,585
Jute	312
Pepper	4
Indigo	39
Silk	18
Drugs and sundries	38

In the absence of general statistics of the export of the various commodities of Anatolia as a whole, statistics of the export trade of the main trade outlets at the various dates at which good statistics are available, are given below.

Aegean and Marmara Ports

1. *Haidar Pasha*

Owing to the inclusion of the trade statistics of this port under those of Constantinople it is impossible to give separate figures for the trade of the port. The chief exports appear to be barley, maize, wool, wheat, skins, and silk.

In 1913, a poor year, 45,000 tons of Anatolian barley reached the sea-board at Haidar Pasha.

The 1912 flat maize crop, otherwise known as American mixed, which is only grown in the Adabazar districts, was expected to give a yield which would allow of about 15,000–20,000 tons being exported.

The average yield of the mohair wool clip, which is chiefly collected in the Angora region, is 60,000 bales. The clip is exported principally to Bradford, England, and partly to America.

A good yield of Anatolian wheat (70 per cent. of which is soft, the remainder hard and mixed), coming from the Angora, Eskishehir, and Konia regions, amounts to some 120,000 to 130,000 tons. Of this some 60,000–70,000 tons are required for Constantinople, and the remainder is exported abroad. The exportation of skins, from Constantinople, presumably principally from the Anatolian side, averages :

Sheep skins	500,000–600,000
Kid skins	80,000–100,000
Goat skins	150,000–200,000
Lamb skins	35,000– 40,000
Mohair goat skins	20,000– 25,000
Clipped mohair goat skins	50,000– 60,000

The lamb skins all went to Austria-Hungary and Germany.

Exports from Derinje and Izmid, 1904. (See p. 322)

Commodity.	*Weight.*	*From*	*To.*
Raw silk . .	200,000 kgs.	Izmid, Adabazar, Bilejik, Lefke	
Silk (piece goods)	200,000 kgs.	Izmid, Adabazar, Bilejik, Lefke	France, Italy, Switzerland.
Unwashed wools .	150,000–200,000 kgs.	—	England ; U.S.A.
Flax seeds . .	10,000,000 kgs.	Winter quality from Izmid ; summer quality from Angora and Konia	England ; partly to Italy.
Maize. . .	40,000 tons	—	England ; occasionally to Germany.
Barley . .	70,000–80,000 tons	—	England.
Wheat . .	15,000–20,000 tons	—	Mainly to the Islands of the Archipelago.
Tobacco . .	400,000–500,000 kgs.	—	Alexandria.
	600,000–800,000 kgs.	—	Europe ; occasionally to Italy.
Chromium . .	15,000–20,000 tons	The Daghardy mines	England chiefly.
Flax hards . .	250,000–300,000 kgs.	Izmid and Adabazar	England chiefly.
Potatoes . .	3,000 tons	Adabazar	—
Animal bones .	2,000 tons	—	—

2. *Derinje and Izmid.*

See Consular Report, 1913.

It is difficult to estimate how much of the area tapped by the Anatolian railway prefers to export via Derinje in lieu of Haidar Pasha.

The total annual exportation via Derinje and Izmid in 1904 is shown on p. 321.

Nuts, potatoes, and onions are exported to Constantinople.

There is an occasional exportation of cocoons.

3. *Mudania.*

	Imports.	*Exports.*
Trade, 1900	14,962 tons	4,407 tons

The exports consist chiefly of chestnuts (1,172 tons) and smaller quantities of cereals, sesame, wood, and eggs.

4. *Panderma.*

The exports are as follows :

Article.	*Quantity.*	*Destination.*
Boracite	16,000 tons (1913)	England.
Wheat .	6,000 tons (1901)	Italy and the Archipelago.
Beans .	10,000 tons (1901)	Chiefly England ; also Germany and France.
Maize .	22,000 tons (1901)	England, Italy, France, and Germany.
Oats .	6,000–9,000 tons (1901)	France and Italy (1913).
Barley .	1,000 tons (1901)	United Kingdom and Antwerp (1913).
Sesame .	500–700 tons (1901)	Constantinople for local consumption (1913)
Linseed	15,000 sacks (1901)	England.
Silk .	120 tons (1913)	Milan, Lyons, Marseilles (1901).
Eggs .	3,000,000	France, Austria.
Wool .	50,000–60,000 okes	Germany, England.

Olives are exported to Constantinople, Odessa, and Egypt. Opium and cotton are exported from Balikesr, gall-nuts from the heights of Balat.

The tobacco exported is of an inferior quality ; sheep and cattle are shipped in considerable numbers to Constantinople.

5. *Chanak Kale* (*Kale Sultanie, Dardanelles*).

The estimated annual exports of the chief commodities are as follows :

Article.	*Value or Quantity.*	*Destination.*
Timber .	£20,000 (1913)	
Gall-nuts	200,000 Italian quintals (1904)	London, Hamburg, Genoa, Trieste, Fiume, Odessa.
Skins .	20,000–22,000 sheep skins, 35,000–40,000 goat and kid skins, 2,000 cow skins.	London, Hamburg, Trieste.

Valonia, chick-peas, and an unimportant quantity of cereals are also exported.

6. *Aivalyk.*

Exports from this port have declined. In 1907 the exports were £419,307, an unusually good year. In 1911 the exports were only £77,727, and these were some £20,000 better than the previous year.

EXPORTS, 1907.

Article.	*Tons.*	*Value.*
		£
Chick-peas	225	4,365
Flour	3,970	79,000
Oil-cake	2,980	4,776
Oils	6,780	207,400
Soap	1,895	60,320
Tanned skins	349	48,872
Raisins	74	570
Valonia	1,140	10,144
Wines and spirits	132	3,860
Total		£419,307

The following table gives an idea of the destination of the exports from Aivalyk.

EXPORTS, 1911.

Destination.	*Value.*
	£
Greece	526
Russia	30
France	17,500
Rumania	20,113
Bulgaria	32,508
United States	1,950
Egypt	2,100
Other countries	3,000
Total	77,727

7. *Dikeli.*

The value of the exports from Dikeli amounted in 1909 to £280,000. In 1904, when the value of the export trade was only some £100,000 the principal exports were as follows:

Article.	*To.*	*Value.*
		£
Barley	Smyrna, Malta, and European ports	17,700
Valonia	Trieste	15,800
Sheep } Oxen }	Constantinople } Mitylene }	13,600
Beans	Portugal	13,000
Chick-peas	Constantinople	10,900
Wheat	Italy and Aegean Islands	9,700
Sultana raisins	Europe via Smyrna	5,200

Sesame, cotton, oil, ground olive stones, gall-nuts, wool, silk, skins, tobacco in leaves, cheese, salt, and straw were also exported in 1909.

The weight of exports in 1910 was:

Beans	2,000,000 okes
Barley	200,000 Constantinople kiles
Wheat	50,000 Bergama kiles
Valonia	10,000 kantars
Sesame	500 sacks
Cotton seed	350,000 okes
Chick-peas	1,000,000 okes
Olive oil	1,000,000 okes

8. *Smyrna.*

The following table gives the export trade of Smyrna for the years 1910, 1911, and 1912.

Year.	*Weight.*	*Value.*
	Tons.	£
1910	382,000	4,500,000
1911	390,000	4,400,000
1912	404,000	4,000,000

In 1907 and 1910 the chief exports of the port of Smyrna were:

Exports from Smyrna in 1907 and 1910.

Article.	*Export*, 1910.	*Export*, 1907.	*Export*, 1907, to United Kingdom.	*Destination in order of Importance*, 1907.
	£	£	£	
Barley	243,000	312,123	268,318	U.K., Belgium, France, Italy.
Beans	80,000	73,486	58,159	U.K., France, Austria, Spain.
Carpets	735,000	276,282	140,158	U.K., France, Austria, Belgium.
Cotton	243,578	231,513	12,212	France, Austria, Italy, Germany.
Eggs	33,502	40,309	4,008	France, U.K., Italy, Austria.
Emery	88,106	55,496	21,947	U.K., U.S., Germany, Holland.
Figs	591,263	609,805	406,619	U.K., U.S., Austria, Russia.
Liquorice, root and paste	150,626	197,672	17,326	U.S.
Olive oil	74,166	143,309	26	France, Germany, Austria, Russia.
Opium	415,208	111,194	103,982	U.K., Germany, France, Holland
Raisins :				
Dried	982,765	1,263,753	809,176	U.K.
Fresh and Fruit	62,300			
Cotton seed	53,816	49,982	27,752	U.K., Bulgaria, Rumania, Russia.
Sesame seed	33,908	43,026	513	Russia, Holland, Germany, Bulgaria.
Tobacco	210,000	186,318	13,008	Austria, Germany, U.S., Russia.
Valonia	476,314	353,548	158,495	U.K., Austria, Germany, Italy.
Valonia extract	23,706	—	—	
Flour	79,574	4,230	3,008	U.K., Germany, Holland, Belgium.
Hides and skins	61,347	30,920	451	Austria, France, U.S., Germany.
Loukoum (Turkish delight)	3,065	55,672	27,522	U.K., Bulgaria, Rumania, U.S.
Halva	31,266			
Oats	23,684	4,037	2,920	U.K., Belgium, Greece.
Poppy seed	52,871	2,044	203	Austria, Germany, U.S., U.K.

9. *Scalanova.*

There is an export trade in raisins, figs, olives, tobacco, sesame, and flour.

In 1905 certain exports were as follows :

'Hordas' (inferior quality figs)	15,000 tons	to Austria.
" "	400 tons	to U.S.A.
Oxen	2,500 head	to Alexandria.
Tobacco	—	to Germany and Egypt.
Halva	—	to Russia and Egypt.

South Coast Ports

10. *Mermeris.*

Honey, turpentine, and timber are exported.

11. *Yüksekkum.*

Considerable export of timber chiefly to Egypt.

12. *Makri.*

The chief exports are wheat, barley, maize, millet, sesame seed, valonia, charcoal, building-timber, and chrome-ore. The value of the exports in 1899–1900 was £2,200,000.

13. *Levisi* (or *Kaya*).

There is a considerable trade in carpets, of the Smyrna variety, but less fine in pattern.

14. *Adalia.*

The exports for the years 1910, 1911, and 1912 were as follows :

Year.	£
1910	207,478
1911	223,389
1912	228,044

The details of the exports for 1910 were as follows :

Exports from Adalia, 1910

Article.	*Quantity.*	*Value.*	*Destination.*
		£	
Animals, live :			
Cattle, head	2,253	8,457	Archipelago.
Goats, head	805	640	,,
Sheep, head	106	95	,,
Horses, head	18	220	Turkey.
Bran, bags of 280 lb.	23,032	8,069	Smyrna, Archipelago, Syria.
Charcoal and firewood, tons	5,411	12,986	Egypt.
Cocoons and silk (raw), kilos	7,799	1,559	75 per cent. Brussa, 25 per cent. Smyrna.
Corn :			
Wheat, quarters	464	1,325	Archipelago.
Barley, quarters	245	245	Smyrna and Archipelago.
Maize, quarters	242	290	,,
Beans (kidney), quarters	124	250	,,
Flour, bags of 220 lb.	94,210	103,630	Archipelago and Syria.
Liquorice roots, bags of 450 lb.	112	150	Alexandretta.
Manufactured cotton thread, balls	295	4,720	Castelorizo.
Cloth and trousers, bales			Fineka and Makri.
Provisions, cases and bags	2,755	3,560	Turkey.
Sesame, quarters	8,783	30,740	65 per cent. Turkey, 35 per cent. Bulgaria.
Skins (goat), pieces	36,855	4,685	70 per cent. Marseilles, 30 per cent. Syria.
Sundry goods, bags, cases, and pieces	4,152	2,560	Turkey.
Timber, tons	4,335	14,678	95 per cent. Egypt, 5 per cent. Syria.
Valonia, bags of 230 lb.	5,673	4,538	Smyrna.
Wax (bees), bags of 300 lb.	210	3,250	Smyrna.
Wool, bags of 375 lb.	86	840	Smyrna.
Total	—	207,478	

15. *Anamur and Selefke.*

These two ports shipped during 1912 some £80,000 worth of timber, chiefly to Egypt, Cyprus, and to various parts of Turkey.

16. *Mersina.*

The import and export trade for the years 1910–12 was as follows:

Year.	*Imports.*	*Exports.*
	£	£
1910	611,890	828,700
1911	635,205	818,905
1912	596,352	795,000

The details of the export trade for 1910 were as on p. 329:

17. *Ayas.*

The exports from this port in the year 1912–13 were as follows:

	£
Wheat	70,820
Barley	43,723
Sesame	23,000
Maize	7,674
Oats	6,000

18. *Dört Yol.*

This place exports from £40,000 to £80,000 worth of oranges yearly.

19. *Alexandretta.*

The imports and exports of Alexandretta for the years 1909–13 were as follows:

Year.	*Imports.*	*Exports.*
	£	£
1909	2,226,395	1,308,607
1910	1,398,884	1,301,025
1911	1,145,135	1,044,324
1912	1,209,646	1,020,447
1913	930,478	931,813
Average 1906–10	2,047,207	1,398,054

Exports of Mersina, 1910. (See p. 328)

Article.	*British Empire.*	*United States.*	*Austria-Hungary.*	*France.*	*Greece.*	*Germany.*	*Italy.*	*Russia.*	*Spain.*	*Other countries.*	*Turkey.*	*Total.*
	£	£	£	£	£	£	£	£	£	£	£	£
Barley . . .	—	—	—	—	—	—	—	—	—	—	30,000	30,000
Cotton . .	—	—	170,000	19,000	5,000	21,000	153,000	2,700	63,000	3,000	41,000	477,700
Cotton seed . .	36,000	—	—	4,000	—	—	—	—	—	500	1,000	41,500
Gum tragacanth .	1,500	—	1,400	1,400	—	3,000	2,000	1,000	—	1,500	—	11,800
Maize . . .	2,000	—	—	—	—	—	—	—	—	—	—	2,000
Millet seed . .	750	—	—	—	—	—	—	—	—	—	—	750
Oats . . .	—	—	—	2,000	1,500	—	14,000	—	—	—	—	17,500
Sesame seed . .	—	—	34,000	3,000	—	—	3,000	45,000	—	4,000	35,500	124,500
Wheat . . .	—	—	—	—	—	—	—	—	—	—	100,000	100,000
Wool . . .	—	8,000	1,000	2,680	—	1,060	—	—	—	—	1,260	14,000
Yellow berries . .	2,500	—	—	—	—	—	—	3,500	—	1,000	—	7,000
Apricot kernels .	—	—	—	1,000	—	—	450	—	—	500	—	1,950
Total . .	42,750	8,000	206,400	33,080	6,500	25,060	172,450	52,450	63,000	10,500	208,760	828,700

Statistics of the export trade of 1909 and 1910 to the chief countries concerned were as follows :

Country.	1909.	1910.
	£	£
United Kingdom . .	72,864	24,722
France	194,869	189,086
Italy	35,789	38,645
Austria-Hungary . .	40,675	22,142
Russia	10,546	15,385
United States . . .	133,351	137,454
Belgium	5,039	3,022
Germany . . .	34,394	18,761
Turkey	506,786	525,234
Egypt	272,456	322,730
Greece	1,838	3,844
Total . . .	1,308,607	1,301,025

The following table (p. 331) of the 1910 exports from Alexandretta gives some details of commodities totalling over a value of £20,000.

Smaller quantities of provisions, salted guts, gum and glue, albumen, egg-yolk, and sundries are exported.

Copper ore from Arghana Maden was exported to the United Kingdom as follows :

Year.	*Tons.*	*Value.*
		£
1908	1,016	50,895
1909	1,317	65,860
1910	130	6,505

North Coast Ports

20. *Shile.*

Timber and charcoal are exported from this port to Constantinople.

21. *Kandra.*

There is no information about the exports of this place.

22. *Akche Shehir.*

Walnut, chestnut, and oak timber are exported from Akche Shehir in important quantities. The walnut wood is exported mainly to France, and the other woods to other parts of

Exports of Alexandretta, 1910. (See p. 330)

Article.	*Weight. Tons.*	*Value. £*	*Remarks.*
Native manufactures	427	193,170	Made of native stuffs, China silk, and British yarn.
Silk cocoons	328	163,100	Nearly all to France. Small quantity to Italy.
Cotton	877	50,760	From Idlib. Chiefly to Turkey.
Wool	555	55,165	Chiefly to U.S.A., via Marseilles and Italy.
Gall-nuts and yellow berries	441	29,740	Chiefly to Germany, U.K., France, Russia, &c.
Soap	778	46,680	From Antioch. Chiefly to Anatolian and Black Sea markets.
Pistachios	457	66,660	From Aleppo, Aintab, and Rum Kale. Chiefly to U.S.A. and Turkey.
Butter	514	61,680	Large trade to Turkey and Egypt.
Morocco leather and skins	659	89,750	Aintab and Aleppo. Leather to Egypt and Tunis. Skins to Austria, Germany, France.
Liquorice root	11,412	85,584	To U.S.A. by Tobacco Trust in steam-pressed bales. Some to France and Belgium. Also liquorice paste to U.K.
Oranges and lemons	4,191	25,071	From Payas to Russia and Turkey.
Cattle	—	239,085	Bullocks, sheep, and goats to Egypt and Turkey.
Specie	—	95,000	To Turkey and Egypt.

Western Europe. Spars are exported to Constantinople for the Turkish Navy.

23. *Zunguldak.*

In 1913 the Société Ottomane d'Heraclée sold 423,903 tons of coal, screened and washed, average price f.o.b. at Zunguldak £1, an advance of 4*s.* on the 1912 price. 166,570 tons were supplied as bunker coal at Zunguldak and Constantinople and the rest was distributed as follows :

To various customers in :

	Tons.
Constantinople . .	160,585
Smyrna	56,720
Beirut	4,462
Salonica	2,311
Panderma . . .	2,186
Karaburun . . .	4,841
Derinje	13,384
Rumania . . .	14,843

The other mines on the Heraclea coalfield produced about 400,000 tons, viz. :

	Tons.
Zunguldak . . .	43,000
Koslu	177,000
Kilimli	98,000
Alaja Aghzy . . .	7,000
Kandylly and Chamly .	68,000
Amasra	6,000
Chatal Aghzy . . .	1,000

The average price of this coal was about 15*s.* 6*d.* f.o.b. an advance of 3*s.* 6*d.* on the 1912 price.

24. *The Mouth of the Filiyas Chai.*

A profitable trade in timber is carried on here.

25. *Jidde.*

Quantities of cereals, corn, and timber in planks are exported from Jidde.

26. *Bartin.*

Bartin exports quantities of timber (for construction or fuel), corn, fruit, skins, poultry, eggs, &c.

27. *Ineboli.*

The exports of this port include hemp, mohair, maize, wheat, barley, linseed, fruit, apples, pears, rice, cordage, timber for building and walnut-wood, &c.

The amount of timber exported is considerable.

The following figures of the export and import trade of Kastamuni, for which commercial centre Ineboli is the port, are of interest.

Year.	*Export.*	*Import.*
Annual trade estimated in 1907	£T.130,000	£T.305,000

The detail of the export trade of Kastamuni was as follows:

	£T.
Mohair	65,000
Hemp and rope . .	40,000
Hides	10,000
Nuts	5,000
Various	10,000
Total . . .	130,000

Besides this Ineboli is said to export some £T.180,000 worth of timber and fruit.

28. *Sinope.*

From this port timber, principally oak and beech, is exported in great quantities. Other exports are maize, barley, wheat, flax-seed, oats, tobacco, chestnuts, fish-oil, salt fish, sheep skins, haricot beans, and rice.

29. *Samsun.*

The chief exports from Samsun are tobacco, corn, wheat, maize, barley, skins—principally goat and sheep skins—silk, eggs, and cattle.

30. *Unie.*

The chief exports from Unie are maize, eggs, oats, corn, sheep and goat skins, hemp-seed, and barley.

31. *Fatza.*

The chief export is maize. Smaller quantities of wheat, beans, oats, hemp, hemp-seed, eggs, wool, nuts, apples, barley, &c., are also exported.

32. *Ordu.*

The chief exports are haricots and maize. Hemp, wool, nuts, hemp-seed, linseed, corn, oats, barley, rice, rye, eggs, apples, &c., are also exported.

33. (*Kiresun*).

The chief export is of hazel nuts.

34. *Tireboli.*

The principal exports are hazel nuts, walnuts, haricot beans, rice, yellow wax, sheep and goat skins, and fish-oil.

35. *Platana.*

The chief exports of Platana are tobacco and haricot beans. Maize, hazel nuts, vegetables, and fruit—especially grapes, olives, and figs—are exported in considerable quantities.

The fruit and vegetables are exported to Trebizond, Batum, Poti, and the Crimea.

Timber and charcoal are also exported.

36. *Trebizond.*

The chief exports from this port consist of hazel nuts and tobacco. Smaller quantities of sheep and cattle hides and skins, eggs, beans, fruit and vegetables, &c., are also exported.

The following table gives the value of the various commodities exported to the United Kingdom and foreign countries during the year 1910, from the ports of Trebizond, Samsun, Kerasund, Rize, Ordu, and Tireboli.

EXPORTS, 1910

Commodity.	Trebizond.		Samsun.		Kerasund.		Rize.
	United Kingdom.	Other countries.	United Kingdom.	Other countries.	United Kingdom.	Other countries.	Other countries.
	£	£	£	£	£	£	£
Beans	460	42,080	—	—	—	4,230	3,420
Bones	—	250	50	720	—	60	—
Carpets and rugs	7,150	10,000	—	—	—	—	—
Cereals	—	—	3,210	28,420	—	—	—
Cocoons	—	—	—	23,840	—	520	—
Eggs	—	39,160	990	170,480	—	6,370	40
Filberts	12,300	371,600	—	—	5,380	506,760	260
Fish, cured	—	3,090	—	—	—	1,050	340
Flour	—	—	—	35,270	—	—	—
Fruits, nuts, vegetables	—	12,320	4,120	60,750	—	2,960	1,140
Gums	—	5,760	—	—	—	—	—
Guts	—	5,170	410	6,000	—	650	30
Hemp-seed and linseed	—	580	960	29,420	—	120	—
Hides and skins	5,970	12,990	—	75,040	—	1,230	260
Mahaleb	—	—	—	1,130	—	—	—
Manufactures, native	—	—	210	42,320	—	—	13,140
Opium	—	—	5,260	100,420	—	—	—
Porpoise oil	—	3,700	—	—	—	790	460
Provisions, jerked beef, &c.	—	22,570	—	10,250	—	370	670
Sheep and cattle	—	88,280	—	—	—	2,640	—
Tobacco	—	96,130	36,100	1,237,650	—	—	—
Wax	—	2,180	—	—	—	2,720	30
Wool and mohair	—	3,300	630	49,300	—	—	70
Yellow berries	—	—	—	6,530	—	—	—
Other articles	2,910	50,100	—	50,250	—	8,620	6,300
Total	28,790	769,260	51,940	1,927,790	5,380	539,090	21,160

EXPORTS, 1910 (*continued*)

Commodity.	*Ordu.*		*Tireboli.*	*Total.*		*Grand Total.*
	United Kingdom.	*Other countries.*	*Other countries.*	*United Kingdom.*	*Other countries.*	
	£	£	£	£	£	£
Beans	—	2,670	620	460	53,020	53,480
Bones	—	20	—	50	1,050	1,100
Carpets and rugs	—	—	—	7,150	10,000	17,150
Cereals	—	160	—	3,210	28,580	31,790
Cocoons	—	—	—	—	24,360	24,360
Eggs	—	9,790	—	990	225,840	226,830
Filberts	1,520	98,780	29,850	19,200	1,007,250	1,026,450
Fish, cured	—	150	60	—	4,690	4,690
Flour	—	—	—	—	35,270	35,270
Fruits, nuts, vegetables	—	4,350	90	4,120	81,610	85,730
Gums	—	—	—	—	5,760	5,760
Guts	—	—	—	410	11,850	12,260
Hemp-seed and linseed	—	650	—	960	30,770	31,730
Hides and skins	—	350	1,540	5,970	91,410	97,380
Mahaleb	—	—	—	—	1,130	1,130
Manufactures, native	—	—	—	210	55,460	55,670
Opium	—	—	—	5,260	100,420	105,680
Porpoise oil	—	420	140	—	5,510	5,510
Provisions, jerked beef, &c.	—	70	—	—	33,930	33,930
Sheep and cattle	—	530	—	—	91,450	91,450
Tobacco	—	850	—	36,100	1,334,630	1,370,730
Wax	—	1,460	590	—	6,980	6,980
Wool and mohair	—	10,220	—	630	62,890	63,520
Yellow berries	—	—	—	—	6,530	6,530
Other articles	—	1,780	410	2,910	117,460	120,370
Total	1,520	132,250	33,300	87,630	3,427,850	3,515,480

The following is the export and import table for the ports of Trebizond, Samsun, Kerasund, Rize, Ordu, and Tireboli for the years 1909, 1910, 1912, and 1913.

Year.	*Trebizond.*		*Samsun.*		*Kerasund.*		*Rize.*	
	Imports.	*Exports.*	*Imports.*	*Exports.*	*Imports.*	*Exports.*	*Imports.*	*Exports.*
	£	£	£	£	£	£	£	£
1909	1,352,450	579,720	950,000	1,807,560	226,300	323,000	141,500	24,230
1910	1,372,750	798,050	1,124,040	1,979,730	243,600	544,470	154,270	26,160
1912	1,541,730	644,340	1,089,480	1,699,530	325,800	550,920	152,260	19,120
1913	1,542,090	644,340	—	—	—	—	—	—

Year.	*Ordu.*		*Tireboli.*		*Total.*	
	Imports.	*Exports.*	*Imports.*	*Exports.*	*Imports.*	*Exports.*
	£	£	£	£	£	£
1909	139,730	82,600	37,200	18,700	2,867,180	2,835,810
1910	149,190	133,770	39,800	33,300	3,083,650	3,515,480
1912	141,470	131,740	38,920	30,050	3,289,660	3,083,700
1913	—	—	—	—	1,542,090	644,340

The destinations and values of exports from the ports of Trebizond, Samsun, Kerasund, Rize, Ordu, and Tireboli during the year 1910 were as follows :

Country.	*Trebizond.*	*Samsun.*	*Kerasund.*	*Rize.*	*Ordu.*	*Tireboli.*	*Total.*
	£	£	£	£	£	£	£
United Kingdom	28,790	51,940	5,380	—	1,520	—	87,630
Austria-Hungary	116,080	315,620	215,190	—	51,210	—	698,100
Balkan States	11,270	—	18,530	320	2,760	270	33,150
France	127,120	201,120	70,210	160	20,150	—	418,760
Germany	130,760	138,270	51,130	—	1,970	—	322,130
Belgium	—	12,150	290	3,980	1,620	160	18,200
Italy	950	1,520	1,380	—	980	—	4,830
Russia	8,450	28,590	160,980	970	6,090	18,750	223,830
United States	62,210	589,520	—	—	—	—	651,730
Other countries	84,220	42,580	5,380	—	3,260	4,960	140,400
Total, foreign countries	569,850	1,381,310	528,470	5,430	89,560	24,140	2,598,760
Turkey	228,200	598,420	16,000	20,730	44,210	9,160	916,720
Grand total	798,050	1,979,730	544,470	26,160	133,770	33,300	3,515,480

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